ORDER NO. VRD9706008C2

Service Manual

General Description
Adjustment Procedures
Block / Schematic Diagrams
Exploded Views / Parts List

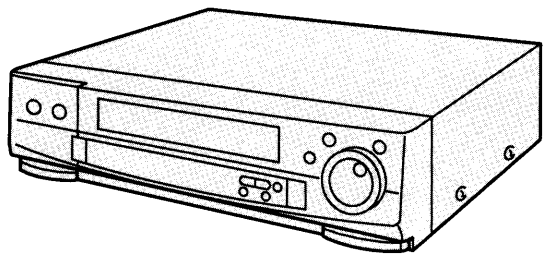
Video Cassette Recorder

Panasonic VHS PAL

Hi-Fi HQ

NV-HD670 EG/EGH EC

K-MECHANISM



SPECIFICATIONS

ITEM	SPECIFICATION		ITEM	SPECIFICATION
POWER	SOURCE: 220—240 V AC 50/60 Hz		AUDIO	HEAD: 1 Stationary head (Normal-mono only) 2 channels (Hi-Fi Sound-Stereo)
	CONSUMPTION: 23 watts (NV-HD670EG/EGH) 25 watts (NV-HD670EC)			INPUT: EURO AV (AV1, AV2) Connector (21 pin×2) −6 dBV (500 mV), more than 10 kΩ AUDIO IN (AV3) Connector (Phono type) −10 dBV (316 mV), more than 47 kΩ MICROPHONE JACK −70 dBV
RECORDING SYSTEM	2 rotary heads, helical scanning system			OUTPUT: AUDIO OUT Connector (Phono type) −6 dBV (500 mV), Less than 1 kΩ EURO AV (AV1, AV2) Connector (21 pin×2) −6 dBV (500 mV), Less than 1 kΩ
	PAL		TAPE SPEED	SP: 23.39 mm/s LP: 11.695 mm/s Record/Playback Time: SP: 4 hours with 240 min. type tape LP: 8 hours with 240 min. type tape FF/REW Time: 2.5 min. with 180 min. type tape
TV TUNER SYSTEM	NV-HD670 EG/EGH	VHF I: CHN1—CHS10 VHF III: CHE5—CHS41 (PAL/SECAM B) UHF: CH21—CH69 (PAL/SECAM G) 75Ω terminated	OPERATING TEMPERATURE	5°C—40°C
	NV-HD670EC	VHF I: CHE2—CHS3 VHF II: CHM1—CHM9 VHF III: CHM10—CHU2 VHF H: CHU3—CHS41 (PAL/SECAM B) UHF: CH21—CH69 (PAL/SECAM G) 75Ω terminated	OPERATING HUMIDITY	35%—80%
RF OUT SYSTEM	NV-HD670 EG/EGH/EC	UHF: CH36±6CH (PAL SECAM G) 70 $^{+3}_{-3}$dBμ, 75Ω terminated	DIMENSIONS	430 (W)×99.9 (H)×321.5 (D) mm
VIDEO	HEADS: 4 rotary heads 1 pair for recording and playback (L-R heads) 1 pair for trick play (L'-R' heads)		WEIGHT	4.7 kg
	INPUT: EURO AV (AV1, AV2) Connector (21 pin×2) 1.0 Vp-p, 75Ω unbalanced VIDEO IN (AV3) Connector (Phono type) 1.0 Vp-p, 75Ω unbalanced		STANDARD ACCESSORIES	1 pc. DIN-RF Cable 1 pc. AC Mains Lead 1 pc. Infra-res Remote Controller 1 pc. Audio Cable
	OUTPUT: EURO AV (AV1, AV2) Connector (21 pin×2) 1.0 Vp-p, 75Ω unbalanced			

Weight and dimensions shown are approximate.
Specifications are subject to change without notice.

Panasonic

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⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

INTRODUCTION

This service manual contains technical information which will allow service personnels to understand and service this model.
Section 1 presents you with technical know how for actual servicing and general information of features and controls, enabling you to become familiar with each function.
Section 2 presents to your mechanical and electrical adjustment information as well disassembly and replacement procedures.
In the case of very common information relating to other models like mechanical adjustments, please refer to the appropriate service manual.
Section 3 contains block diagrams which provides you with information for checking and understanding each circuit. Schematic diagrams which give you detailed information such as waveforms, voltage data, function e.t.c. ...
Section 4 contains exploded views and parts list.
Please place orders using the parts list and not the drawing reference numbers.
If the circuit is changed or modified, this information will be followed by supplementary service manual to be filed with original service manual.

Note 1: Adjustment procedures, Disassembly Procedures and Assembly Procedures for Mechanism Chassis are separate volume from this service manual.
Please refer to the service manual for K-Mechanism Chassis. (Order No. VRD9307M131)
Note 2: The Model No. is indicated on the Schematic Diagram and Circuit Board Diagrams as follows.

Model No.	NV-HD670EG	NV-HD670EGH	NV-HD670EC
Indication Mark	(EG)	(EGH)	(EC)

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SECTION 1
GENERAL DESCRIPTIONS

1-1. SERVICE INFORMATION

1-1-1. CHANNEL MEMORY IC INITIALIZATION

When replacing the memory IC7704, its IC should be initialized.

Note:1) It should be performed before tuning.
2) Meaning of "INITIALIZATION" is to make dependency in different models and to distinguish between different features.

Method:
1) Connect a jumper wire between TL6001 (IC6001-96) and TL6002 (GND).
2) Turn the Shuttle Ring to FF then press the EJECT button to set the Service Mode. (Test Mode will be appeared on the monitor TV.)
3) Set the Model Code for these models by using 10-key on the Remote Controller Unit as follows.
4) After finishing the initialization, disconnect a jumper wire.

	Code No.
NV-HD670EG/EGH	161
NV-HD670EC	165

1-1-2. SERVICE POSITION

A. CHECKING OF MAIN C.B.A.

When servicing the MAIN C.B.A., take out the MAIN C.B.A. and mechanism from the frame and turn over.

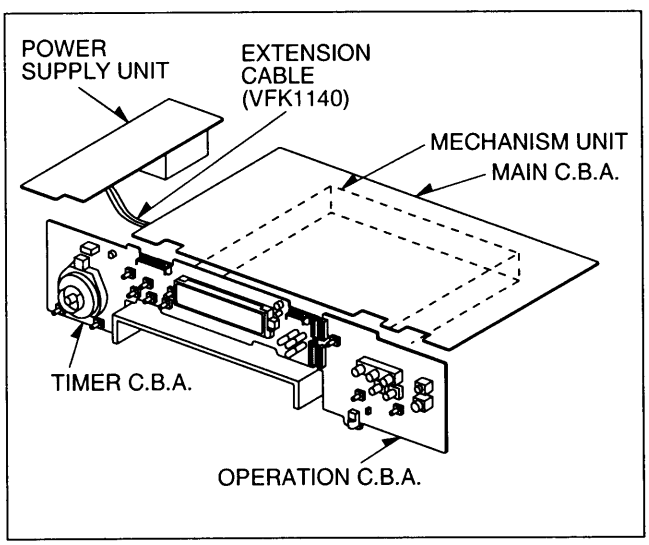


Fig. S1

B. MECHANISM SERVICE POSITION

When servicing the K-Mechanism, take out the mechanism from the MAIN C.B.A. and connect Extention Cable (VFK0889) between the loading-motor connector and P2001 as shown below.
In this position, the following services are possible.

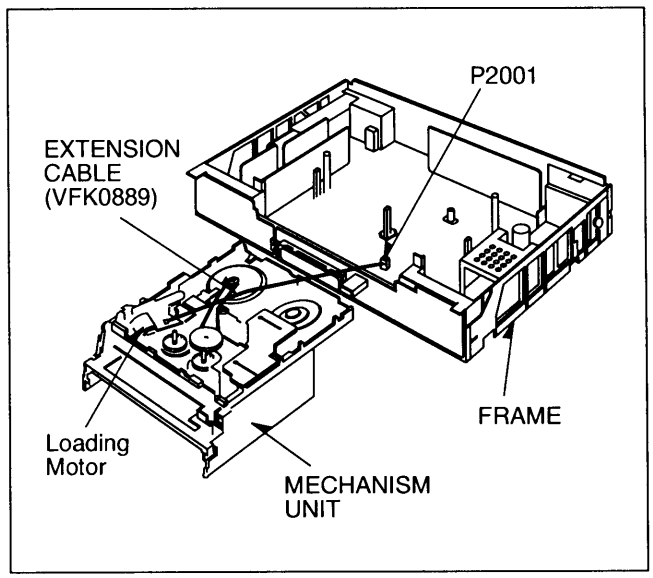


Fig. S2

B-1. CHECKING OF LOADING/UNLOADING OPERATION

There are 3 methods for manual operation of loading/unloading operation as follows.

1. HAND OPERATION
   1) Turn the Worm Gear or the Worm Wheel Gear (Remove the Loading Motor Unit) manually.

2. BATTERY OPERATION
   1) Remove the Extention Cable (VFK0889).
   2) Connect the Battery (Manganes-Type R6 (AA) 3pcs./+4.5V) to the Loading Motor terminals.

3. SERVICE INFORMATION DISPLAY OPERATION
   1) Set the Service Information Display mode. (Turn the Shuttle Ring to FF then press the EJECT button.)
   2) In the Service Mode 7, the Loading Motor rotates for Loading operation when the "PLAY" button is pressed.
      The Loading Motor rotates for unloading operation when the "STOP" button is pressed.

Remark:
Use the "SERVICE INFORMATION DISPLAY" mode for a final check of mechanism movement.

B-2. CHECKING OF REEL GEARS OPERATION

1) Move the mechanism to "PLAY" position by loading operation. (Refer to B-1)
2) Turn the Capstan Rotor Unit to check movement of reel gears.

1-1-3. CYLINDER UNIT REPLACEMENT

A. CYLINDER UNIT REPLACEMENT

1) Remove the 3 Screws (A) of the CYLINDER UNIT with a magnetized screw driver in the MECHANISM SERVICE POSITION.

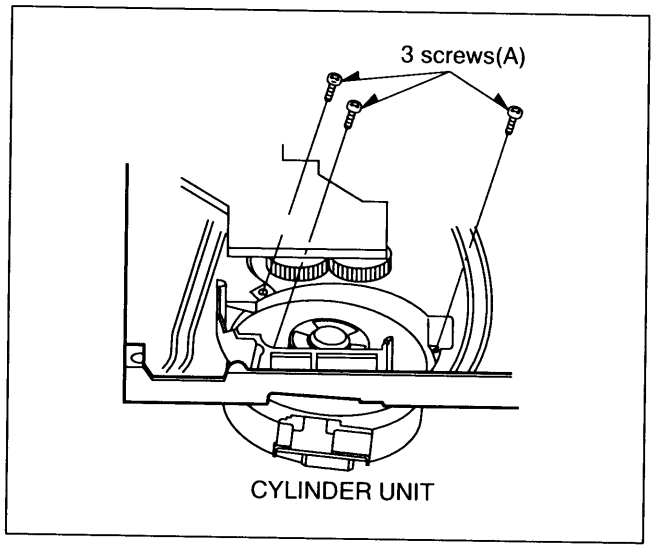


Fig. S3

B. UPPER CYLINDER DISASSEMBLY

1) Remove the Top Panel.
2) Remove the Screw (B) and Earth Plate.
3) Lift up the Upper Cylinder.

Note: Do not remove 3 Screws on the Upper Cylinder.

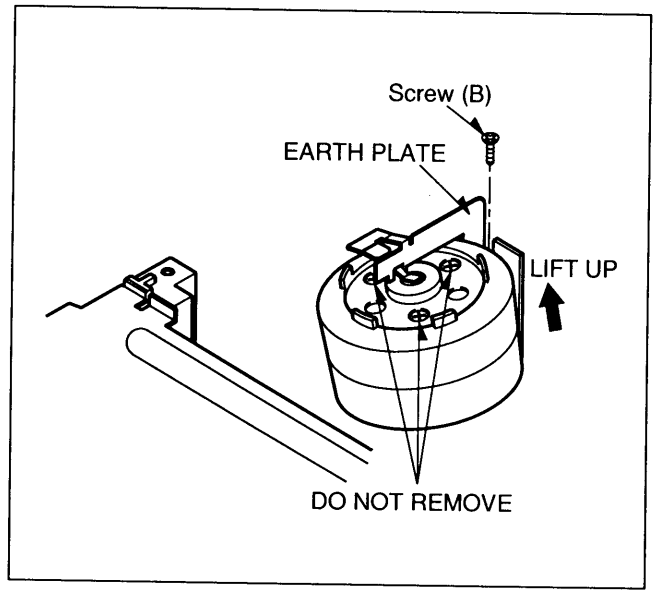


Fig. S4

Do not remove the Rotor Magnet which fixed by 3 screws on the Upper Cylinder.

If it is removed, refer to following method.

1) Install the Rotor Magnet so that the hole (C) on the Rotor Magnet fits to the small projection (D) on bottom of the Upper Cylinder.
2) Tighten 3 screws on top of the Upper Cylinder.

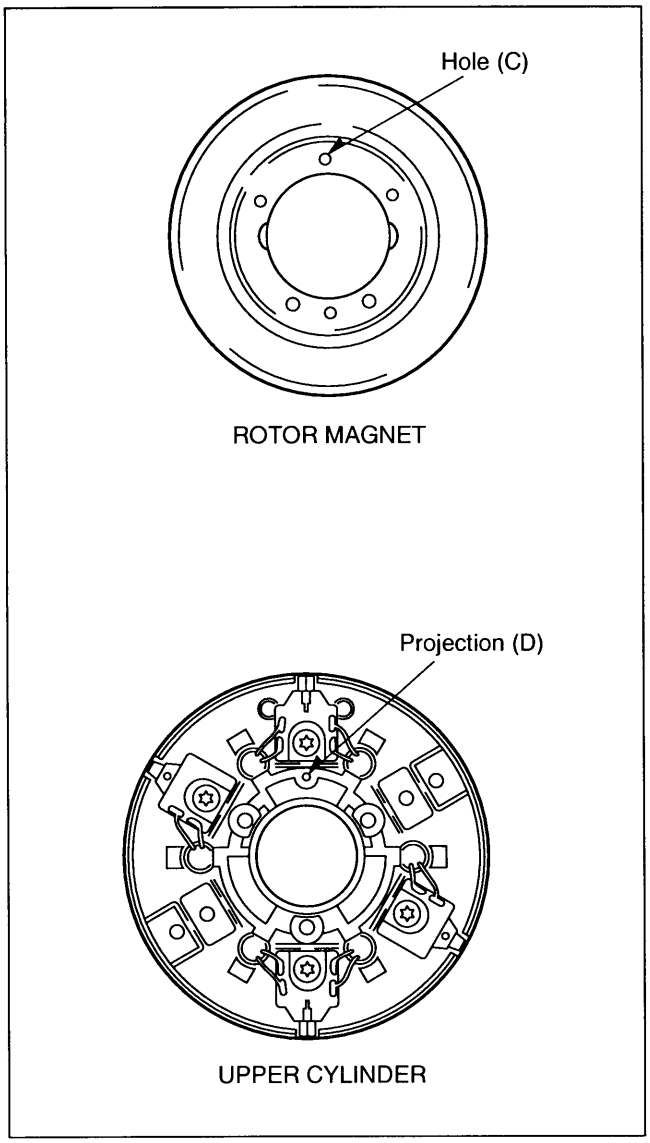


Fig. S5

C. UPPER CYLINDER ASSEMBLY

When reassembling, perform the steps in the reverse order of the DISASSEMBLY METHOD.

1-1-4. FLAT CARD CABLE INSTLLATION

When installing the Flat Card Cable on the connector, install the Flat Card Cable with the cable contacts facing the connector contacts.

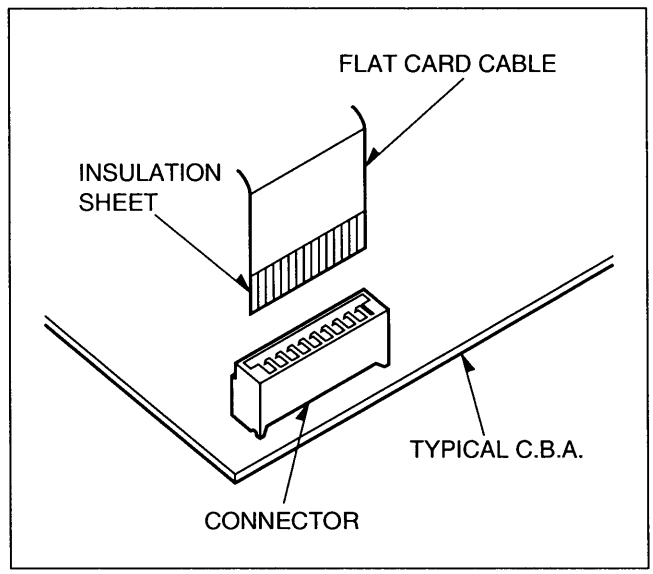


Fig. S6

1-1-5. CAPSTAN STATOR UNIT ASSEMBLY

When replacing the Capstan Stator Unit, the Centre Fixing Tool (VFK0851) must be used to fix the centre of Capstan Stator Unit.

Method:

1) Place the Capstan Stator Unit into position.
2) Loosely tighten the 3 screws.
3) Insert the Centre Fixing Tool (VFK0851) as shown below.
4) Tighten the 3 screws.
5) Remove the Centre Fixing Tool.

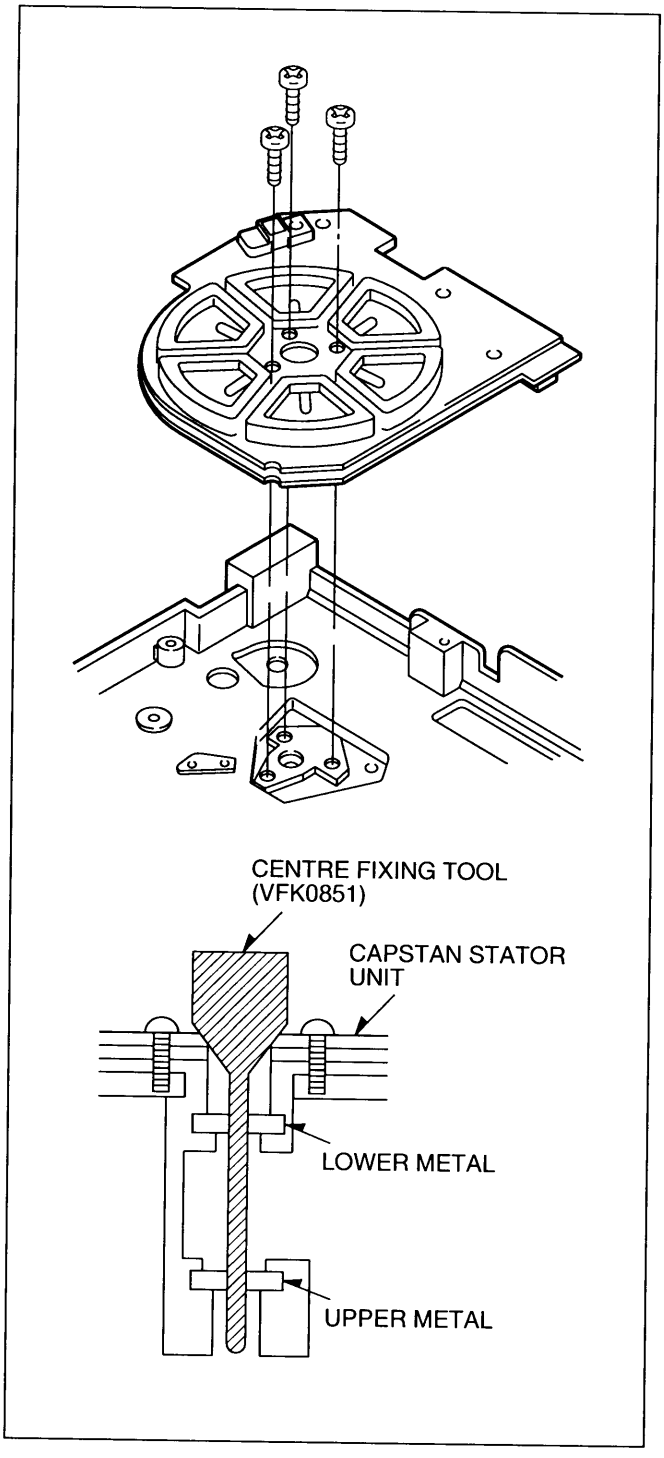


Fig. S7

1-1-6. EJECT OPERATION

The main cam gear rotates in the direction of the arrow. The projection (B) of the carriage connection gear engages with the recession (A) of the main cam gear. The carriage connection gear rotates in the direction of the arrow to perform the Eject operation.

<NOTE>
If the Eject operation is performed without the cassette carriage installed while repairing or making the mechanical phase alignment, the main cam gear will not engage with the carriage connection gear and will not rotate.
To perform the Eject operation with the cassette carriage not installed, it is necessary to rotate the carriage connection gear by hand in the direction of the arrow.

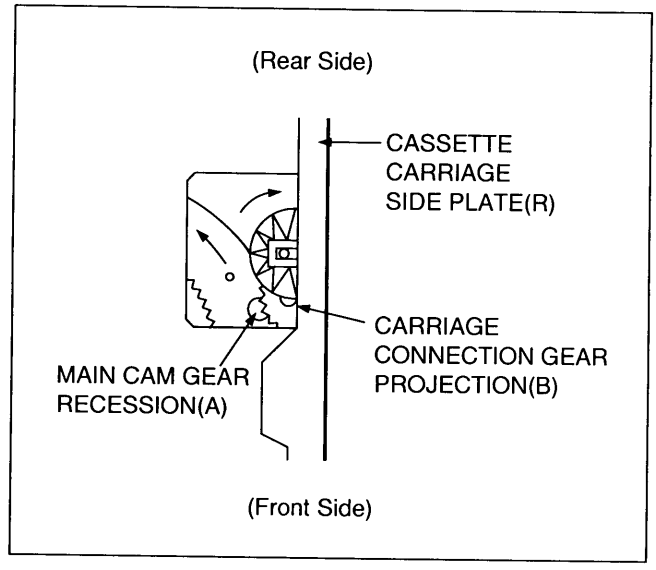


Fig. S8 Top View of Eject Operation

1-1-7. TAKE-UP PHOTO SENSOR OPERATION

Note the following matters for Take-up Photo Sensor Operation.

1) While servicing of the K-Mechanism, the unit will not operate properly if a strong light (ex, Fluorescent light, Spot light) falls on the Take-up Photo Sensor. In this case, cover the Take-up Photo Sensor to prevent the light from falling on it.
2) While servicing of the K-Mechanism with "Power On" and without cassette tape inserted, the Unit does not operate properly.

1-1-8. REMOVAL OF THE CASSETTE TAPE

If the electrical circuit is defective and the action of unloading and front unloading do not work properly, it is possible to remove the cassette manually. There are 2 methods of removing the cassette.

1. HAND OPERATION

1) Take out the mechanism from MAIN C.B.A.
2) Turn the Worm Gear manually, moving the Loading Post to the unloaded position.
3) Turn the Capstan Rotor Unit clockwise to take up the tape.
4) Turn the Worm Gear again to eject the cassette.

2. BATTERY OPERATION

1) Take out the mechanism from Main C.B.A.
2) Connect the Battery (Manganes-Type R6 (AA) 3pcs./ +4.5V) to the Loading Motor terminals as shown below.
3) After moving the Loading Post to the unloaded position, disconnect the battery to stop the motor.
4) Turn the Capstan Rotor Unit to clockwise to take up the tape.
5) Reconnect the battery to eject the cassette.

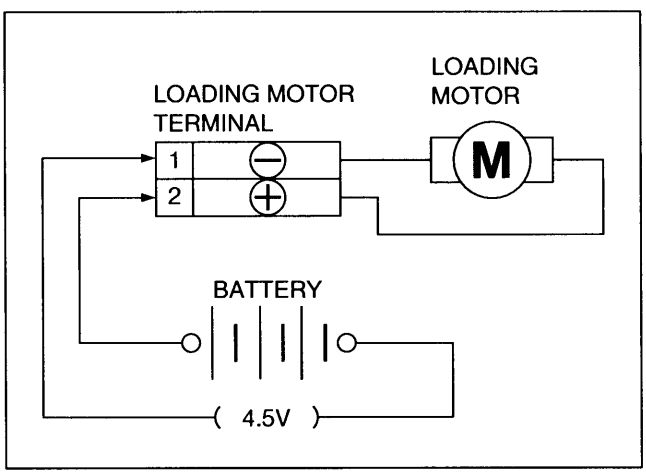


Fig. S9

If the cassette tape can not be removed by the above 2 methods, remove it by the following method.

1) Remove the Top Panel.
2) Remove the Front Panel Unit.
3) Lift up the Pinch Arm after removing spring.
4) Push the P5 Arm and remove the cassette tape from tape transportation (P1, P2, P3 and P5 Posts).
5) Turn the Capstan Rotor Unit to take up the tape.
6) Remove 1 screw from the Side Plate (R) Unit to disconnect the Rack Gear from the Carriage Connection Gear.
7) Take out the cassette tape from the Cassette Compartment.

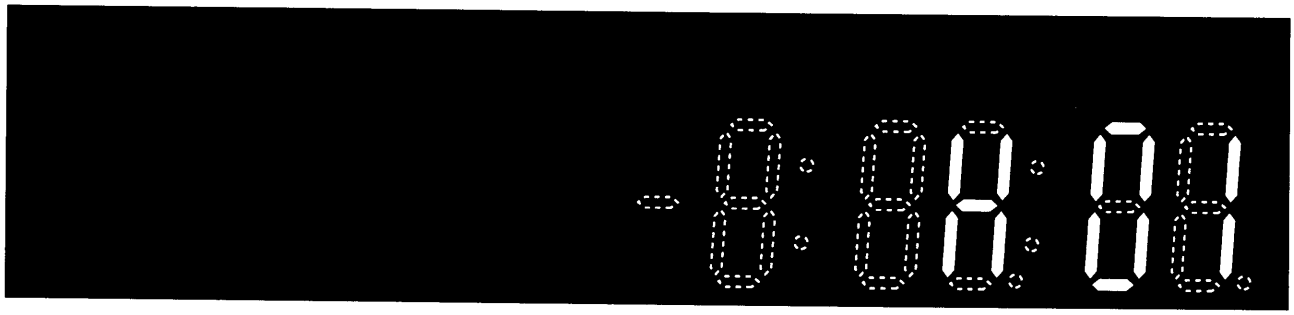
1-2. SELF-TEST INDICATION DISPLAY

This VTR has a self-diagnosis and display function. If the VTR detects trouble during installation or during use, one of the following Fault Indication Codes will automatically appear in the VTR display. Fault Indication codes are displayed in the form of a single English letter followed by two numbers, as for example "H01".

Note:1. The indication "U" is displayed on the FIP while power remains on.

2. Otherwise, the indication "H" or "F" is displayed on the FIP, and the power is automatically turned off. When the power is turned on again, the Fault Indication Code will disappear and the unit will return to normal display mode (either clock or counter).
3. This Fault Indication Code will be stored in the Timer microprocessor even with the AC plug disconnected.
   The two-digit number portion of the stored Fault Indication Code can be redisplayed in the FIP's "second" display position (the last 2 digits on the light) by placing the unit is Service Mode Number 2 when turning on Service Information Display as for example "01" or "02" etc.
   If a second error occurs, only the most recent error will be displayed and stored.
4. To erase the stored Fault Indication Code data, Turn the Shuttle Ring to FF then press the EJECT button for 5 seconds.

<FIP>



INDICATION	CAUSE	REMEDY/CHECK
U 10	Dew formation.	Wait until the indication disappears.
H 01	After cylinder lock is detected, the cylinder does not start rotating again even after tape unloading.	Check the cylinder-motor drive circuit.
H 02	Cassette tape is not wound up during tape unloading except Eject mode.	Check the capstan-motor drive circuit.
F 03	Mechanism locks during mode transition except Eject mode.	1. Check the loading-motor drive circuit. 2. Check the mechanism phase alignment. 3. Check the Mode Switch.
F 04	Mechanism locks during tape unloading.	1. Check the loading-motor drive circuit. 2. Check the mechanism phase alignment.
F 05	Cassette tape is not wound up during tape unloading in Eject mode.	1. Check the capstan-motor drive circuit. 2. Check the Supply/Take-up reel pulse.
F 06	Mechanism locks after tape unloading in Eject mode.	1. Check the loading-motor drive circuit. 2. Check the mechanism phase alignment for Cassette Holder Unit.
F 07	Rec power voltage does not appear in Rec mode.	Check the Rec power supply circuit.
F 08	Rec power voltage appears except Rec mode.	Check the Rec power supply circuit.
F 09	No serial clock transmission between IC6001 and IC7501.	Check the serial clock circuit.

Fig. T1 Self-Test Indication Display

1-3. SERVICE INFORMATION DISPLAY

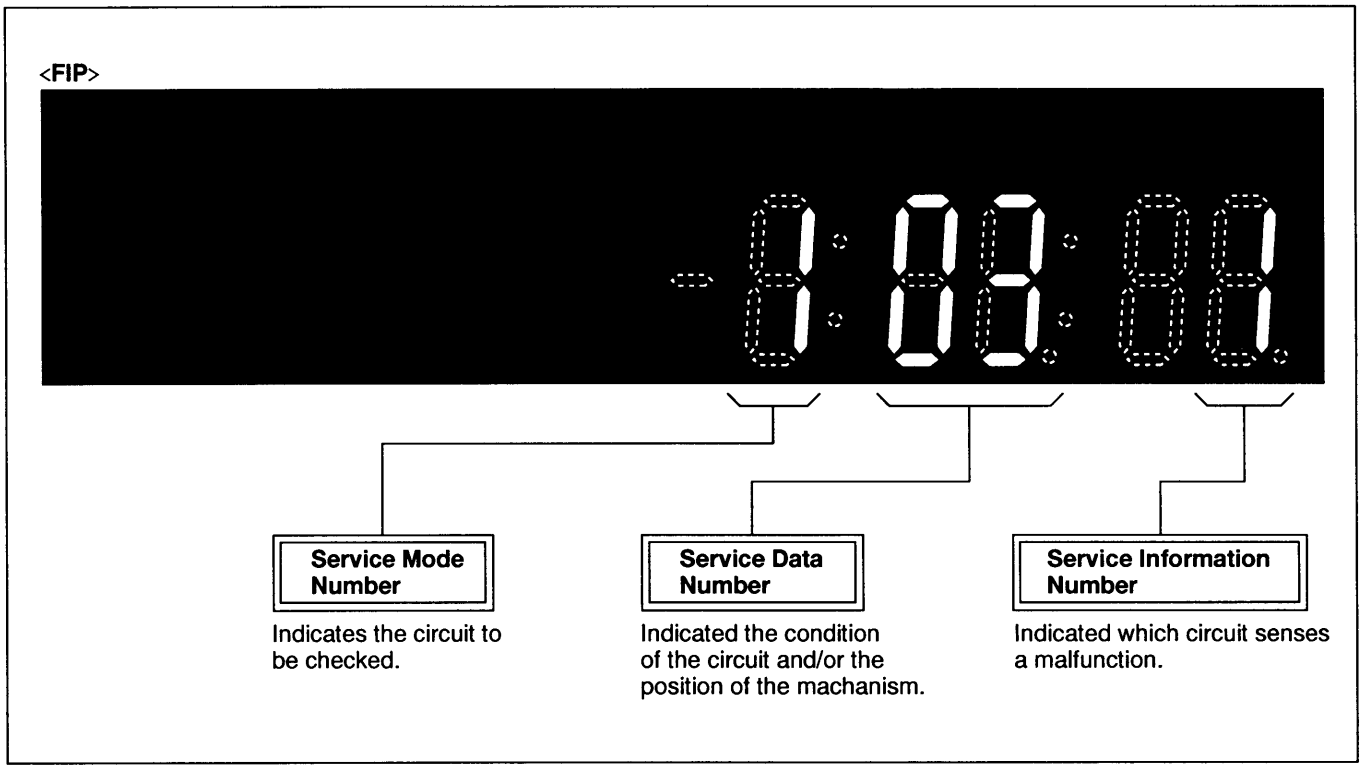

<FIP>
Service Mode Number
Indicates the circuit to be checked.
Service Data Number
Indicated the condition of the circuit and/or the position of the machanism.
Service Information Number
Indicated which circuit senses a malfunction.

Fig. D1 Service Information Display

1-3-1. Purpose of Service Information Display

This information aids trouble shooting by indicating the source of the malfunction. The service mode number & service data number are used by the technician during repair while the service information can be used by the consumer to diagnose malfunctions allowing the technician to provide a more accurate repair cost estimate and reduce repair time.

1-3-2. Turning on Service Information Display

(1) Turn the Shuttle Ring to FF then press the EJECT button.

In the Service Information Display, there are four digits divided into 3 functions.
The first digit indicates which of the 7 service modes that the unit is currently in.

MODE 1 : Checks tape protection circuit
MODE 2 : Checks tape transport mechanism
MODE 3 : Checks mode switching operation
MODE 4 : Checks control buttons
MODE 5 : Checks capstan motor
MODE 6 : Checks cylinder motor
MODE 7 : Checks loading/unloading operation

The second and third digits are service data which indicate the condition of the circuit or mechanism being checked.

The forth digit is the service Information display. It is to be used by the consumer to help determine the source of a malfunction. The service information display operates independently of the service modes and stores the fault indication in memory for as long as AC power is not supplied.

1-3-3. Use of Service Modes

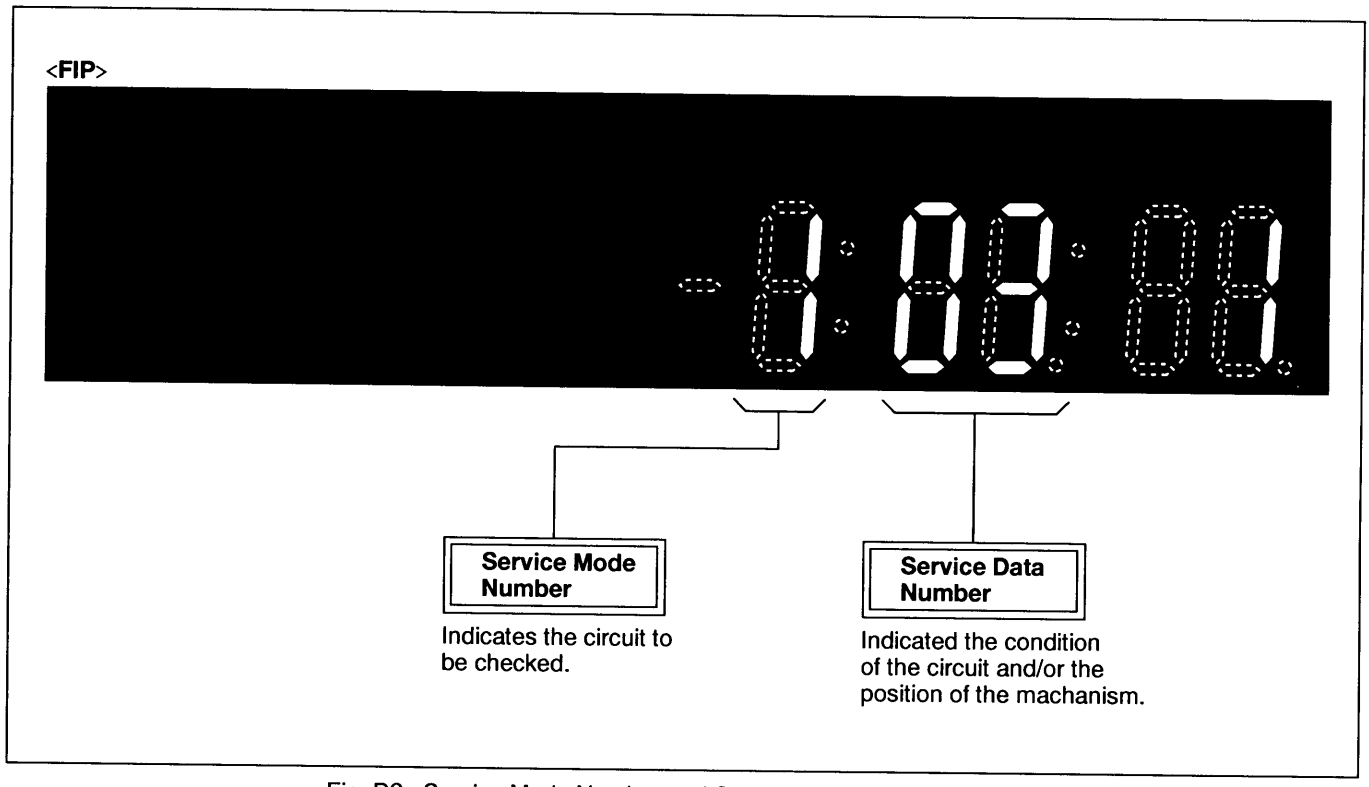

<FIP>
Service Mode Number
Indicates the circuit to be checked.
Service Data Number
Indicated the condition of the circuit and/or the position of the machanism.

Fig. D2 Service Mode Number and Service Data Number on S.I.D.

(1) Turn on Service Information Display.
(2) To change Service Modes turn the Shuttle Ring to FF then press the EJECT button.
(3) Mode 1 : Checks that the Sensor LED, Supply & Take-up Sensor circuits check the circuits by blocking the light from the Sensor LED to either or both Supply & Take-up Sensors.
When the light is blocked to both sensors, "00" should be indicated on the service data number.
When the light is blocked to the supply sensor, "01" should be indicated.
(4) Mode 2 : Checks the mode switch circuit while indicating mechanism position.
Service Data Numbers indicate the position of the mode switch and there by the mechanism position.
(5) Mode 3 : Checks that mode switch circuit operations have been completed.
Service Data Number should indicate "00" after each mechanism operation is completed.
(6) Mode 4 : Checks the operation circuit.
Indicates if IC6001 receives the operating commands from the mode buttons and/or remote controller.
(7) Mode 5 : Checks the capstan motor circuit.
Indicates if the IC6001 has received the command to rotate the capstan motor.
(8) Mode 6 : Checks the cylinder motor circuit.
IC6001 has received the command to rotate the cylinder motor.
(9) Mode 7 : Checks the Loading/Unloading Operation.
The Loading Motor rotates for loading operation when the "PLAY" button is pressed.
The Loading Motor rotates for unloading operation when the "STOP" button is pressed. This mode can be displayed indefinitely until the OPERATE button is pressed.

<NOTE>
Refer to Fig. D5 for details of Service Data Numbers.

1-3-4. Service Information Number

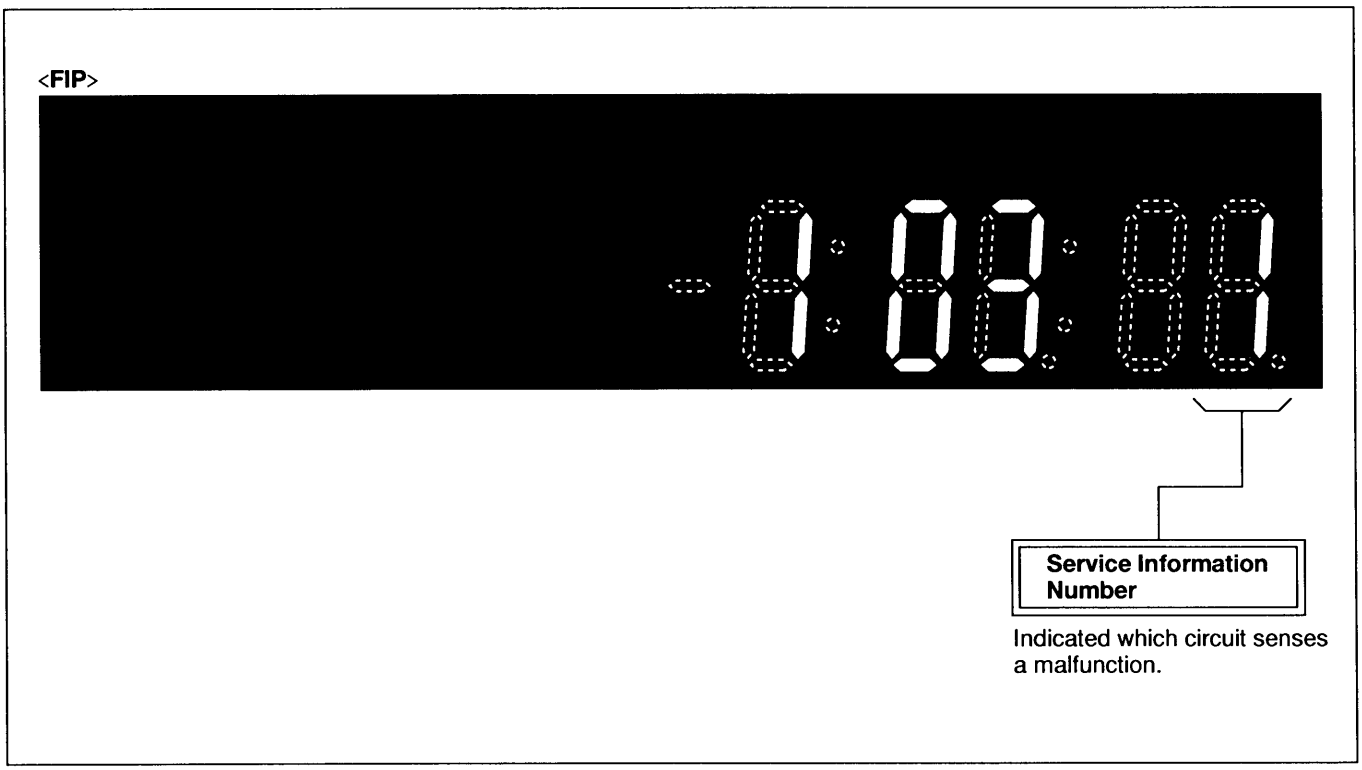


Fig. D3 Service Information Number on S.I.D.

Refer to Fig. D4 for details of Service Information Number.

Note:
The Service Information Number display is independent of the service mode display.
The Service Information Number will be stored as long as AC power is not supplied. (It can be displayed in the Service Mode 2.)
If a second error occurs, only the most recent error will be displayed.

Service Information Number	Malfunction
0	Normal (No problem)
1	Cylinder stop
2	Tape reel stop
3	Stop at position other than 4 or 6
4	Stop during unloading
5	Faulty capstan rotation
6	Stop during Cassette-In/Eject operation

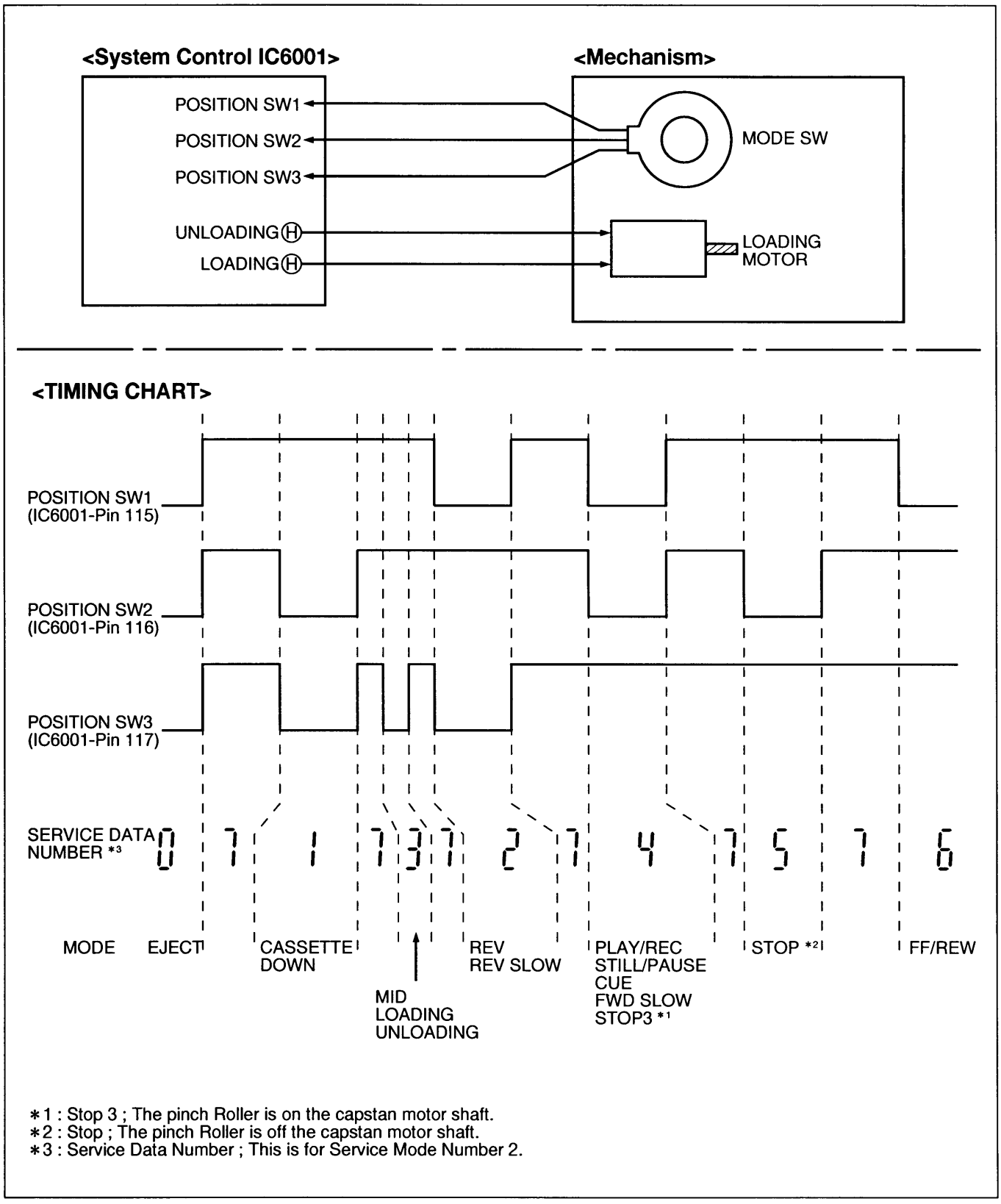
Fig. D4 Detail Service Information Numbers

Service mode Number	Note for checking Service Data Numbers	Service Data Numbers	Indication	Remarks
1	———	00	No light detected at either sensor.	Tape not required.
		01	Tape Beginning. Light to Supply Photo Sensor is blocked.	
		02	Tape End. Light to Take-up Photo Sensor is blocked.	
		03	Light detected at both sensors.	
2	———	00	EJECT	Tape Required. *1: STOP3; The Pinch Roller is on the capstan motor shaft. *2: STOP; The Pinch Roller is off the capstan motor shaft. Refer to Fig. D7 to Check mechanism Position and timing.
		01	Cassette-down	
		02	REV, REV SLOW	
		03	Loading/Unloading	
		04	PLAY/REC, STILL/PAUSE, CUE, FWD SLOW, STOP3 *1	
		05	STOP *2	
		06	FF/REW	
		07	Intermediate position	
3	Disregard service data displayed until mechanism operation is completed. Then the display should indicate "00".	00	Any display other than "00" indicates a fault in the mode switch circuit or system.	Tape Required.
4	Display only when the operating button is pressed.	Refer to Fig. D6		Tape not required.
5	Left digit only, disregard Right digit display.	8 1 (Left Digit, Right Digit)	8, 9, u, A, −, n, L, and no display indicate that the Capstan motor "PLAY" command received by IC6001.	Tape required. If a symbol other than those listed is displayed, a malfunction in that circuit is indicated.
	Right digit only, disregard left digit display.	8 7 (Left Digit, Right Digit)	1, 2, 3, 4, 5, 6, 7, indicate that the Capstan motor "CUE, FF, Forward Slow" commands received by IC6001.	
	Right digit only, disregard left digit display.	8 (Left Digit, Right Digit)	8, 9, u, A, −, n, L, and no display indicate that the Capstan motor "Reverse, Rew, Reverse Slow" commands received by IC6001.	
6	Left digit only, disregard Right digit display.	1 0 (Left Digit, Right Digit)	1, 3, 5, 7, 9, A, n and no display indicate that the cylinder motor "ON" command received by IC6001.	Tape required. If a symbol other than those listed is displayed, a malfunction in that circuit is indicated.

Fig. D5 Service Data Display and Indication

1-3-5. Timing Chart from Mode SW to System control IC6001

System control IC6001 senses the mechanism position through the Mode SW.
Fig. D6 shows the timing for Service Mode Number 2.

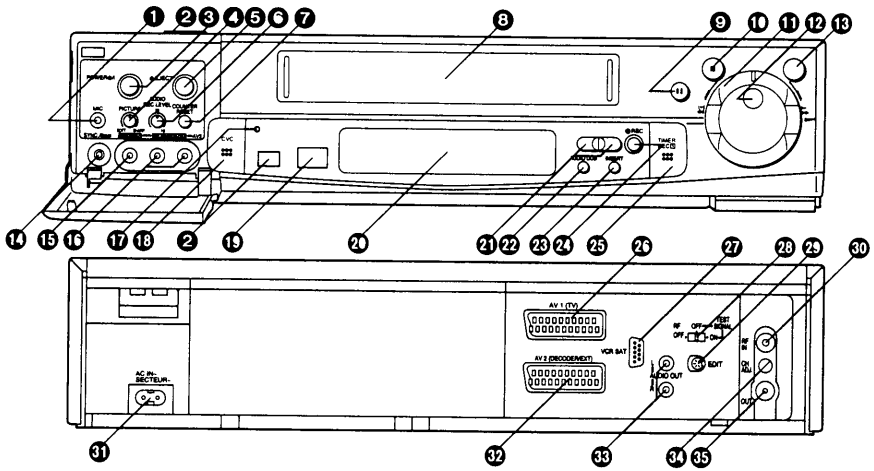


*1 : Stop 3 ; The pinch Roller is on the capstan motor shaft.
*2 : Stop ; The pinch Roller is off the capstan motor shaft.
*3 : Service Data Number ; This is for Service Mode Number 2.

Fig. D6 Timing Chart of Mode SW

Controls and Connection Sockets

This gives a detailed explanation of the function of each button, switch and connection socket.



❶ MIC
To connect a microphone for recording. Once connected, this socket has priority.

❷ Infra-red Signal Transmitter
Signals are sent from here to the receiver when using this unit to control one of the satellite receivers found on the attached list of compatible satellite receivers. For assured satellite receiver control, **Satellite Settings** must be performed at the installation stage.

❸ POWER ⏻/I
Press to switch the VCR from on to standby mode or vice versa. In standby mode, the VCR is still connected to the mains.

❹ PICTURE
To make picture sharper (SHARP) or softer (SOFT). This functions only when the CVC function is off.

❺ EJECT
To eject a video cassette.

❻ AUDIO REC LEVEL
To adjust the recording level to peak at +4 dB on the recording level indicator.

❼ COUNTER RESET
To reset the tape counter (elapsed time) to "0:00.00".
- The tape counter is automatically reset to "0:00.00" when a video cassette is inserted.

❽ Cassette Compartment
Insert a video cassette here.

❾ ❚❚ (PAUSE/STILL)
In the stop mode: Still picture (Jog/Shuttle mode).
During playback: Still picture (Jog/Shuttle mode).
During recording: To interrupt recording.

❿ ■ (STOP)
To stop any playback or recording.

⓫ Shuttle Ring
In the stop mode: To rewind or fast forward the tape.
In the playback mode:
To search picture backward or forward.
In the still playback mode:
To adjust playback speed backward or forward.
In the rewind or fast forward mode:
To obtain high speed picture.

⓬ Jog Dial
To locate any desired frame with utmost precision.

⓭ ▶ (PLAY)
To start playback. "▷" is lit.
For the repeat playback function.

⓮ SYNC./8 mm
To connect the synchro connection cord (VW-K10E/VW-K1E) to a movie camera or another VCR equipped with synchronized editing capability.
To connect a movie camera or another VCR equipped with LANC socket for One-Touch-Editing.

⓯ VIDEO IN (AV3)
To connect the video cable to a movie camera or to another VCR.

⓰ AUDIO IN (AV3)
To connect the audio cable to a movie camera or to another VCR.
- Use the L connector for operations in the normal (monaural) mode.

⓱ Standby Indicator
This indicator is lit when the VCR is turned off or the VCR is timer recording standby mode.

⓲ CVC (Crystal View Control)
ON: Using the CVC function, playback and recording are performed in the state which achieves optimum picture quality in light of characteristics of a tape.
- The CVC indicator is lit on the VCR display.
- This control should normally be left in the ON position.

OFF: Turn off the CVC function.
- The CVC indicator is not lit.

⓳ Infra-red Remote Control Receiver Window

⓴ Display

㉑ ∨ ∧
To select the required programme position (TV station).

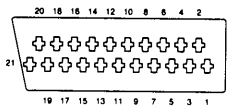
㉒ AUDIO DUB
To set up the VCR for audio dubbing.
ADUB is appeared on screen display.

㉓ INSERT
To set up the VCR for insert editing.
INSERT is appeared on screen display.

㉔ REC
To start a recording.

㉕ TIMER REC
To turn the timer recording function on and off.
◷ is lit or not lit.
Once operating timer recording function, the normal VCR operation is not possible unless this button is set to off.

㉖ AV1 (TV)
This 21-pin scart terminal carries input and output signals for both picture and sound. TV sets equipped with a similar socket can be connected here.
This is also called Scart
Peritel
Euro Connector
Euro AV



1	AUDIO OUTPUT CH2 (R)	13	RED GROUND
2	AUDIO INPUT CH2 (R)	14	BLANKING GROUND
3	AUDIO OUTPUT CH1 (L)	15	RED
4	AUDIO GROUND	16	BLANKING
5	BLUE GROUND	17	VIDEO OUTPUT GROUND
6	AUDIO INPUT CH1 (L)	18	VIDEO INPUT GROUND
7	BLUE	19	VIDEO OUTPUT
8	SWITCHING VOLTAGE	20	VIDEO INPUT
9	GREEN GROUND	21	GROUND
10	No connection		
11	GREEN		
12	No connection		

Caution: RGB reservation for only E/E operation when connecting the Pay TV decoder

㉗ VCR SAT
To connect to the optional Panasonic satellite receiver (VW-SAT1E).

㉘ RF OFF/TEST SIGNAL
RF OFF: Set to this position when the VCR is connected to the TV via the 21-pin scart cable.
TEST SIGNAL OFF:
Set to this position when the VCR is connected to the TV via the RF coaxial cable only.
TEST SIGNAL ON:
Set to this position when tuning the TV into the VCR.
The test signal is transmitted on channel 36 initially.

㉙ EDIT
By connecting the optional Editing Controller (VW-EC310E/VW-EC300E) to this socket, such editing functions as Assemble Editing, Insert Editing and Audio Dubbing can be performed more quickly and efficiently between two VCRs or between a VCR and a movie camera.

To connect the Edit cable (VW-K5E) to a movie camera or to another VCR for One-Touch-Editing.

㉚ RF IN
To connect to the external aerial.

㉛ AC IN~
To connect to the main power supply.

㉜ AV2 (DECODER/EXT)
To connect to a decoder, another VCR or a satellite receiver.

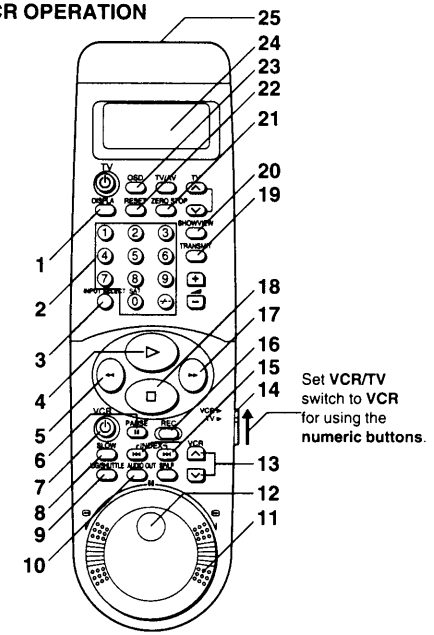
㉝ AUDIO OUT
To connect the audio cable to a stereo audio system.

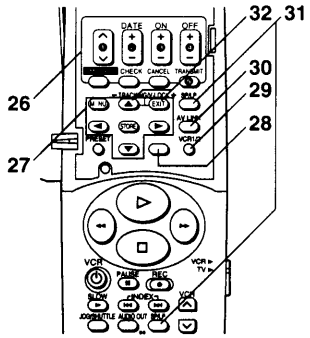
㉞ CH ADJ.
To adjust the RF transmitting channel 30–42.

㉟ RF OUT
To connect to the aerial terminal on a TV set.

Infra-red Remote Controller

VCR OPERATION





1 DISPLAY
To change the indication on the VCR Display or On Screen Display.
→Clock→Counter→Remaining Tape Time→

2 Numeric Buttons
Ensure that **VCR/TV** switch is set to **VCR**.
- To select the programme positions (1–99) of the VCR.
  Use this method to select satellite programme positions if your VCR is connected to the optional Panasonic satellite receiver (VW-SAT1E).
  9: ⑨
  19: ⟲ → ① → ⑨
- To select the satellite programme positions (SAT1–SAT99)
  SAT 9: SAT ⓪ → SAT ⓪ → ⑨
  SAT 19: SAT ⓪ → ① → ⑨
- To programme a ShowView number.

3 INPUT SELECT
To select the A1, A2 or A3 external recording source.

4 ▷ (PLAY)
To start playback. "▷" is lit.
For the repeat playback function.

5 ◀◀ (REWIND)
In the stop mode: To rewind the tape.
In the playback mode: To search backward.
In the rewind mode: To obtain high speed picture.
"◁◁" is lit.

6 PAUSE
During playback: Still picture.
During recording: To interrupt recording.

7 VCR ⏻
Press to switch the VCR from on to standby mode or vice versa. In standby mode, the VCR is still connected to the mains.

8 SLOW
For the slow motion playback function. "▯▷" is lit.

9 JOG/SHUTTLE
In the stop mode: Still picture (Jog/Shuttle mode).
During playback: Still picture (Jog/Shuttle mode).

10 AUDIO OUT
To select the desired sound mode.
At the every push of this button, the audio output mode changes as follows.
→Stereo→Left→Right→Normal audio track→
The Left (L) and Right (R) Indicators shown which sound mode is selected in the following way.
Stereo: Both the L and R Indicators appear.
Left: The L Indicator appears.
Right: The R Indicator appears.
Normal: Both the L and R Indicators don't appear.

11 Shuttle Ring
In the stop mode: To rewind or fast forward the tape.
In the playback mode:
To search picture backward or forward.
In the still playback mode:
To adjust playback speed backward or forward.
In the rewind or fast forward mode:
To obtain high speed picture.

- Check that **"JOG/SHUTTLE ON"** is shown on the remote controller display before operating Jog Dial and Shuttle Ring on the remote controller. If it is not, press the **JOG/SHUTTLE** button again to make it appear.

12 Jog Dial
To locate any desired frame with utmost precision.
- Check that **"JOG/SHUTTLE ON"** is shown on the remote controller display before operating Jog Dial and Shuttle Ring on the remote controller. If it is not, press the **JOG/SHUTTLE** button again to make it appear.

13 ∨ ∧ (VCR)
To select the required programme position (TV station) of the VCR.

14 VCR/TV switch
VCR: To select the VCR operation mode. (For using **numeric buttons**.)
TV: To select the TV operation mode. (For using **numeric buttons**.)

15 INDEX
For the index search function.

16 REC
To start a recording.

17 ▶▶ (FAST FORWARD)
In the stop mode: To fast forward the tape.
In the playback mode: To search forward.
In the fast forward mode: To obtain high speed picture.
"▷▷" is lit.

18 □ (STOP)
To stop any playback or recording.

19 TRANSMIT
To transmit the data that has been set on the remote controller to the VCR.

20 SHOWVIEW
For the ShowView programming.

21 ZERO STOP
For the zero stop function.

22 RESET
To reset the tape counter (elapsed time) to "0:00.00".
- The tape counter is automatically reset to "0:00.00" when a video cassette is inserted.

23 OSD
For the On Screen Display Function.

24 Display

25 Infra-red Transmitter
The programming data are transmitted from here to the VCR.

26 Timer Recording Operation Buttons

∨ ∧, DATE, ON, OFF:
To programme a timer recording.

TIMER REC:
To turn the timer recording function on and off.
⏲ is lit or not lit.
Once oeprating timer recording function, the normal VCR operation is not possible unless this button is set to off.

CHECK:
To check timer programmes.

CANCEL:
To cancel timer programmes.

TRANSMIT:
To transmit the data that has been set on the remote controller to the VCR.

27 On Screen Display Menu Operation Buttons
The buttons written by green characters are used for the on screen display menu operation.
MENU: To make On Screen Display **Main Menu** appear on the TV screen.
EXIT: To exit the menu.
STORE: To confirm the selection, or to store.
- This button functions as the **RESET** button if it is pressed when the On Screen Display Menu Operation screen fails to appear.

▲ ▼ ◀ ▶:
To make selections from On Screen Display.
- The ◀ button functions as the **DISPLAY** button and the ▶ button as the **ZERO STOP** button if they are pressed when the On Screen Display Menu Operation screen fails to appear.

28 This button is not used to operate this VCR.

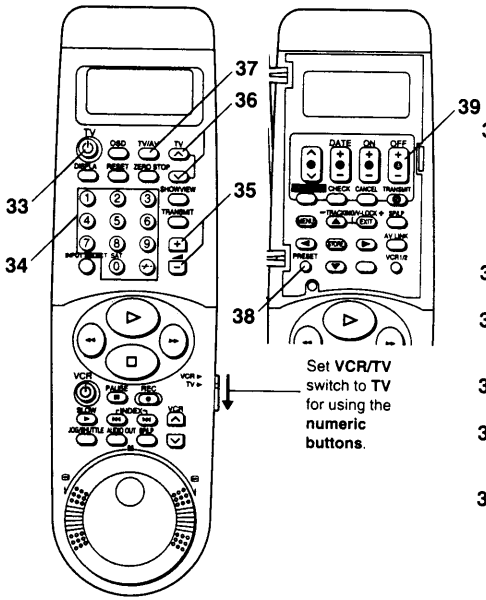
29 VCR 1/2
To select the remote control mode. The selected mode appears on the remote controller display.
VCR 1: Set to this position on both the VCR and remote controller for normal use with one VCR.
VCR 2: Set to this position when using two Panasonic VCRs.

30 AV LINK
To select the VCR mode or TV mode for AV LINK.

31 SP/LP
To select the tape speed desired for recording.
SP gives the best picture quality.
LP gives the longest recording time.

32 TRACKING/V-LOCK
For manual tracking adjustment:
The + and − buttons are used to adjust the tracking when, for example, noise bars on the picture during normal playback are better removed manually than by automatic digital tracking control.
Press both buttons down at the same time to return to automatic digital tracking control.
For slow tracking adjustment:
When noise bars appear during Still or Slow playback, switch over to slow playback and adjust with the + or − button to reduce the noise bars.
For vertical locking adjustment:
Use the + and − buttons minimize any vertical jitter during still-picture playback.

TV OPERATION



33 TV ⏻
Press to switch the TV from on to standby mode or vice versa. In standby mode, the TV is still connected to the mains.
- With some TV models, it may only be possible to switch the TV to the standby mode using this button. In this case, use **TV/AV**, ∨ ∧ or **numeric buttons** to switch the TV on.

34 **Numeric Buttons**
To select programme positions (1–99) of the TV.
- Ensure that **VCR/TV** switch is set to **TV**.

9: ⑨

19: ⑩ → ① → ⑨

35 ◢
To adjust the volume of the TV.

36 ∨ ∧ **(TV)**
To select the required programme position (TV station) of the TV.

37 **TV/AV**
To select the TV input.

38 **PRESET**
To set the remote controller for operation of the TV. Refer to page 48.

39 **OFF**
To set the remote controller for operation of the TV.

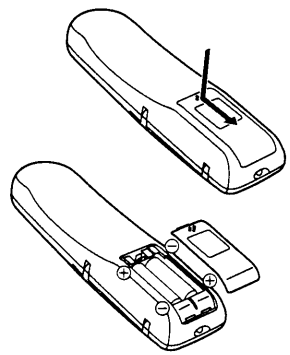
Power Source for the Remote Controller

The remote controller is powered by 2 "AA", "UM3" or "R6" size batteries. The life of the batteries is about one year, although this depends on the frequency of use.

Precautions for Battery Replacement

- Load the new batteries with their polarity (⊕ and ⊖) aligned correctly.
- Do not apply heat to the batteries, or an internal short-circuit may occur.
- If you do not intend to use the remote controller for a long period of time, remove the batteries and store them in a cool and dry place.
- Remove spent batteries immediately and dispose of them.
- Do not use an old and a new battery together, and never use an alkaline battery with a manganese battery.

Installing the Batteries



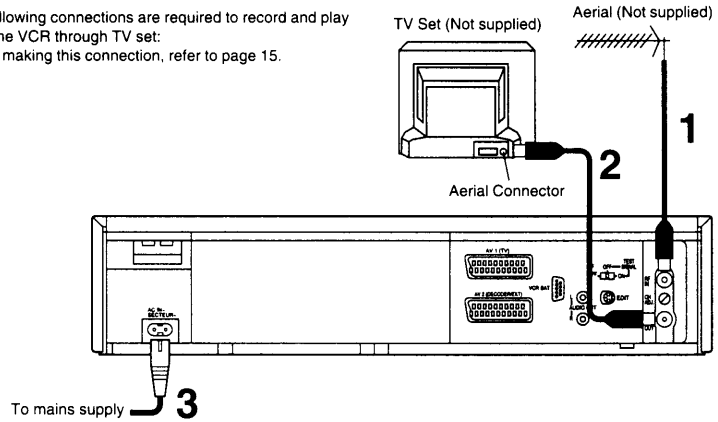
Connections

This tells you how to connect with an aerial, TV, etc.

Basic Connections

The following connections are required to record and play back the VCR through TV set:

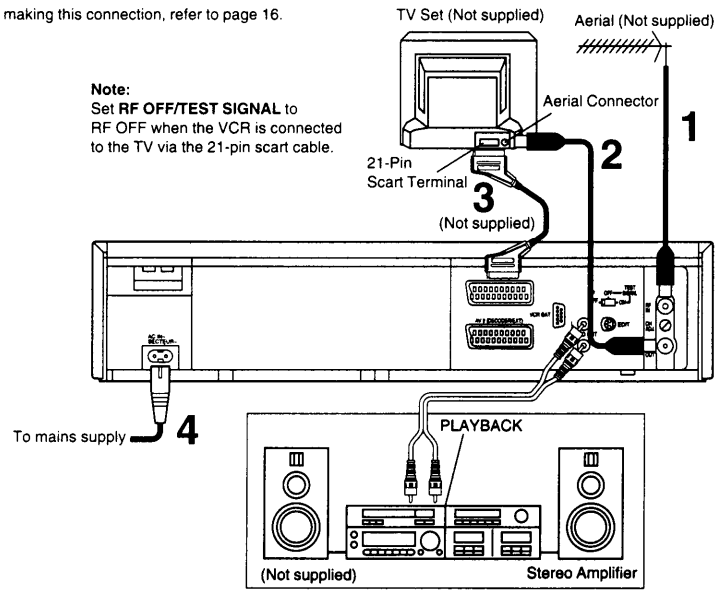
●After making this connection, refer to page 15.



Connection to a TV Set with 21-Pin Scart Terminal

●After making this connection, refer to page 16.

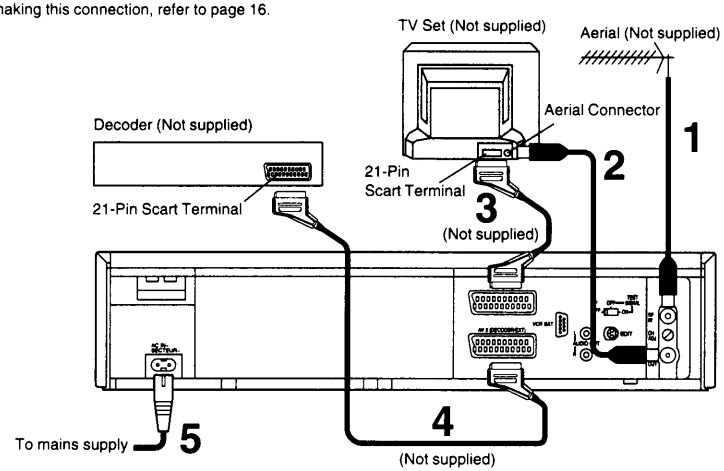
Note:
Set **RF OFF/TEST SIGNAL** to RF OFF when the VCR is connected to the TV via the 21-pin scart cable.



●Connection to a Stereo Amplifier

Connection to a Decoder

●After making this connection, refer to page 16.



Notes:

- If the TV set is provided with an RGB-compatible connector, connect the 21-pin AV cable from the VCR to this connector. Use the fully-wired 21-pin scart cable for connecting the TV set and VCR and for connecting the VCR and decoder.
- Set **RF OFF/TEST SIGNAL** to RF OFF when the VCR is connected to the TV via the 21-pin scart cable.
- When the decoder is connected to the AV2 socket, **AV2 Connection** must first be set to **DECODER**. (See page 45.)

AV LINK

With this button the connected colour TV set can be switched from TV mode to VCR mode (vice versa) when it is connected by means of 21-pin scart cable.

This makes a variety of functions possible such as simultaneous recording and viewing when a Pay TV decoder or a satellite receiver has been connected.

VCR mode (VCR indicator lights):
To enjoy sound and pictures from the VCR.

- When **MENU** is pressed and the OSD (On Screen Display) screen is displayed, the unit also automatically switches to VCR mode.
  However, if the unit is originally in TV mode, the VCR indicator is not displayed.
- The unit also automatically switched to VCR mode when playback is started. However, the unit cannot be returned to TV mode during playback.

TV mode (VCR indicator goes off):
To watch another programme on the TV while recording on the VCR.

- Select the programme to be watched using the TV set's tuner.
- The sound and pictures of a different channel are received by the VCR.

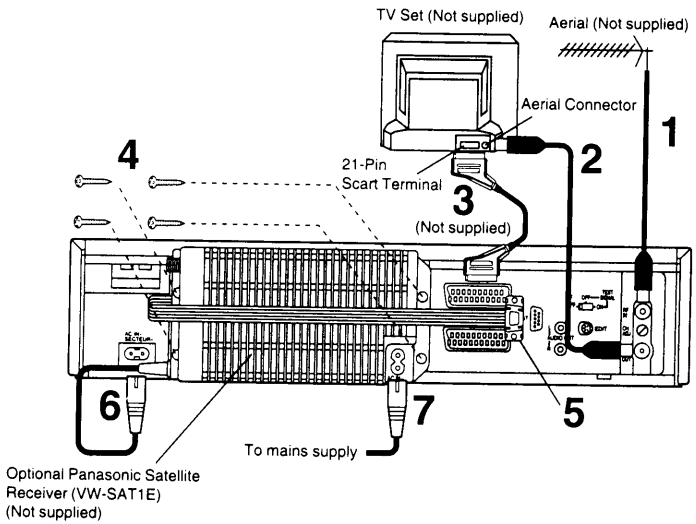
VCR		TV set
Power On	VCR mode	AV input selected
	TV mode	Input from TV set's tuner*
Power Off	—	Input from TV set's tuner

*When the VCR is set to the TV mode and the Pay TV channel is selected, the signals will still be scrambled even when Pay TV is selected by the TV set's tuner. At a time like this, either set the VCR to the VCR mode or switch the TV set's input signals to AV input.

Connection to the Optional Panasonic Satellite Receiver (VW-SAT1E)

The satellite receiver control functions are activated when the VCR is connected to the optional Panasonic satellite receiver (VW-SAT1E).
Make absolutely sure that the satellite receiver is installed in a location as per the figure below.
Attach the optional Panasonic satellite receiver (VW-SAT1E) securely to the VCR using the screws supplied with the receiver in step **4**.
After making this connection, proceed with **Auto Setup** on page 16.
Then, if necessary, proceed with "Manual Satellite Tuning when Connected to the Optional Panasonic Satellite Receiver" on page 19.

- Also refer to the operating instructions for the optional Panasonic satellite receiver (VW-SAT1E).
- The unit may not operate properly if it has not been installed in a satisfactory position.
- When the VCR is connected to the optional Panasonic satellite receiver (VW-SAT1E), other satellite receivers cannot be controlled even if connected.



Notes:

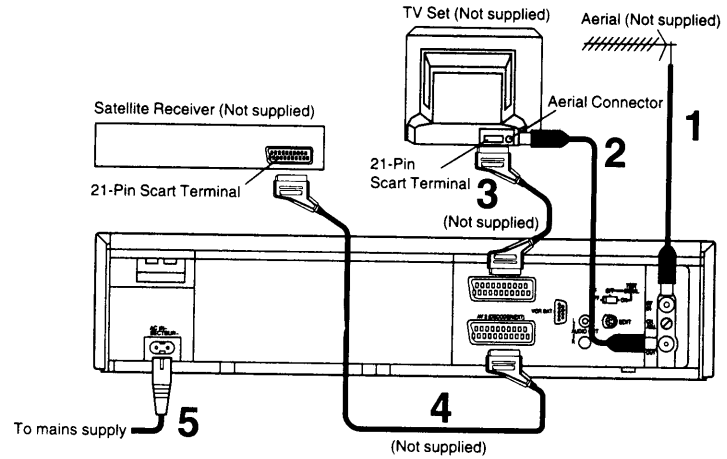
- Set **RF OFF/TEST SIGNAL** to RF OFF when the VCR is connected to the TV via the 21-pin scart cable.
- When a decoder is to be connected in addition to the satellite receiver, read the Operating Instructions accompanying the decoder.
- If the optional Panasonic satellite receiver (VW-SAT1E) was purchased after the VCR was already installed, connect the VCR and the Panasonic satellite receiver and then perform **"Auto Setup Restart"**. (See page 42.)

Connection to a Satellite Receiver

- The satellite receiver control functions are activated when connection is made to one of the satellite receivers found on the attached list of compatible satellite receivers, provided that the settings from pages 21 to 23 have been performed. Also make absolutely sure that the satellite receiver is installed in a location as per the figure below.
- Also refer to the operating instructions for the satellite receiver.
- The unit may not operate properly if it has not been installed in a satisfactory position.

Ⓐ By means of 21-pin Scart Cable

After making this connection, proceed with **Auto Setup** on page 16 and then with the **Satellite Setting** on pages 22 and 23.

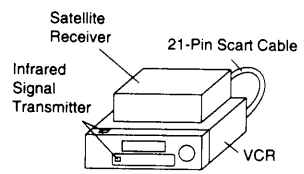


Notes:

- Set **RF OFF/TEST SIGNAL** to RF OFF when the VCR is connected to the TV via the 21-pin scart cable.
- When a decoder is to be connected in addition to the satellite receiver, read the Operating Instructions accompanying the decoder.
- The AV LINK function may not work, depending on the type of satellite receiver.
- When the satellite receiver is connected to the AV2 socket, **AV2 Connection** must first be set to **EXT**. (See page 45.)

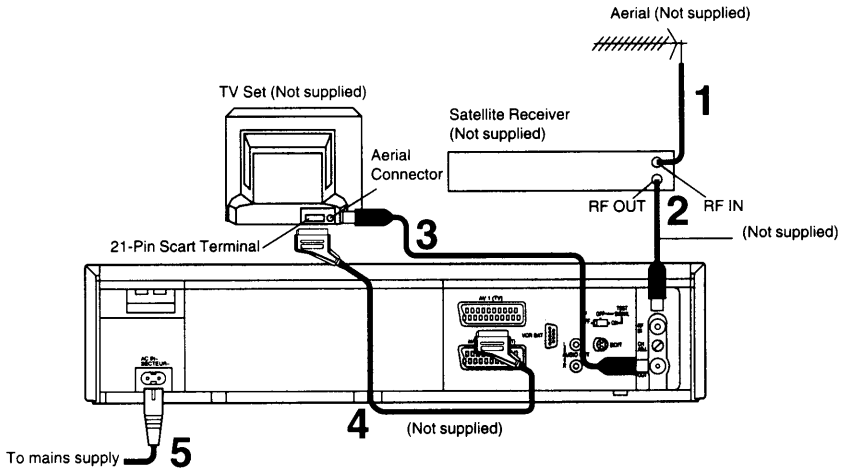
How to install

We recommend that the satellite receiver be placed on top of the VCR, positioned so that the infrared signal transmitter is clearly accessible.



Ⓑ By means of RF Coaxial Cable

After making this connection, proceed with **Auto Setup** on page 16 first, and then with **Satellite Tuning** on page 21 and the **Satellite Setting** on pages 22 and 23.

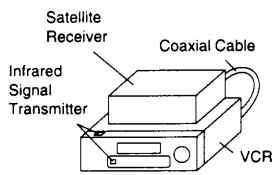


RF output channel of the satellite receiver should be adjusted away from channel 36, which is used by the VCR, e.g. re-adjust to channel 33.

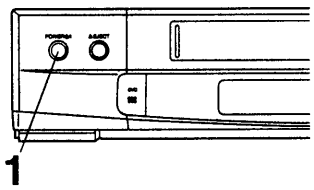
Note:
Set **RF OFF/TEST SIGNAL** to RF OFF when the VCR is connected to the TV via the 21-pin scart cable.

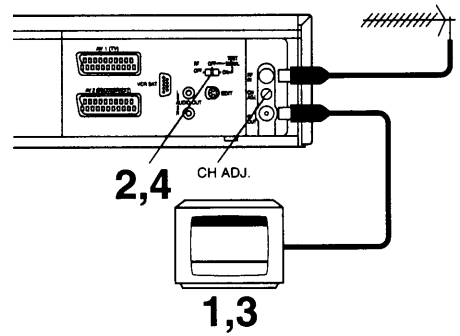
How to install

We recommend that the satellite receiver be placed on top of the VCR, positioned so that the infrared signal transmitter is clearly accessible.



Tuning the TV to your VCR





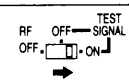
The VCR supplies a signal to the TV set via the RF coaxial cable on channel 36.
It is possible to view the video picture on your TV in the same way that you watch TV broadcasts.

If you have connected the VCR to the TV through the 21-pin scart terminal, then you do not need to follow the procedure mentioned below.

Operations

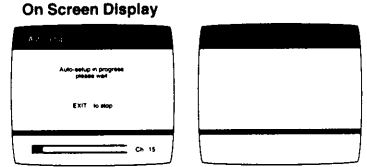
1

Turn on the TV and VCR.

2 

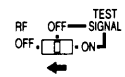
To generate a test pattern, set **RF OFF/ TEST SIGNAL** to TEST SIGNAL ON.

3 **On Screen Display**



(During Auto Setup) (After Auto Setup)

Set the TV to an unused position which you wish to use for your video playback.
- Tune the TV until the test pattern appears on the screen.

4 

Set **RF OFF/TEST SIGNAL** to TEST SIGNAL OFF.
Note: Select your country after automatic setup has been completed. See page 16.

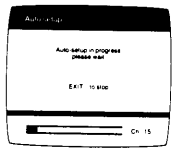
Note:
The test signal is transmitted on video channel 36. If you are encountering interference from a TV broadcast on this video channel, you may readjust to another free channel (30–42) by using the **CH ADJ.** screw which is located on the rear of the VCR.
Please note that if the **CH ADJ.** screw is used then you will have to retune your TV to the test signal as in item **2** to **4** above.

Auto Setup

Auto Setup

When the VCR is turned on after connecting the aerial lead and the mains lead, Auto setup (Auto tuning and Auto clock setting) starts.

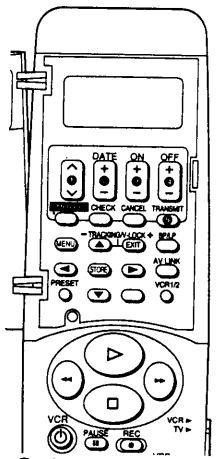
On Screen Display



- The Auto setup is searching for TV station from VHF minimum to UHF maximum and memorizing the data for every programme position. The other programme positions are skipped.
- The Auto setup takes five or more minutes to complete the search for TV station and the clock setting.

Notes:

- If VCR is not correctly set by Auto setup, see **Various settings** on pages 40–43.
- Auto clock setting will not work correctly if teletext information is not available. If the clock setting screen appears after auto tuning has been completed, set clock manually. See page 43.
- Clock information is subject to teletext information. If year information is not in teletext or time information in teletext is incorrect, set clock manually. See page 43.



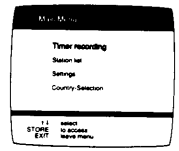
Country-Selection

After the Auto setup is finished, select your country to set TV station list, guide number for ShowView and language.

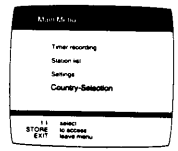
Preparations

- Confirm that the TV is on and the VCR viewing channel is selected.
- Turn on the VCR.

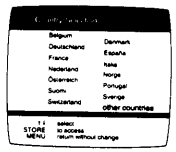
1 Press **MENU**.



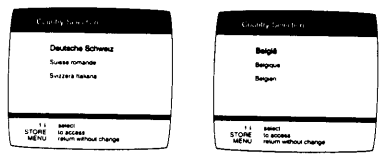
2 Select **Country-Selection**.



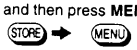
3 Select the desired country.



- When Switzerland or Belgium has been selected, operation moves to the screen which follows. Select the item in accordance with the language required.



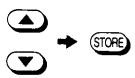
4 Press **STORE**, and then press **MENU**.

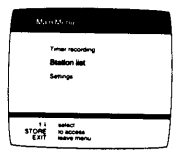


Viewing the TV station list

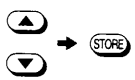
1 Press **MENU**.

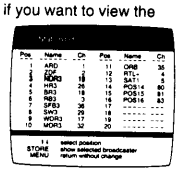
2 Select **Station list**.





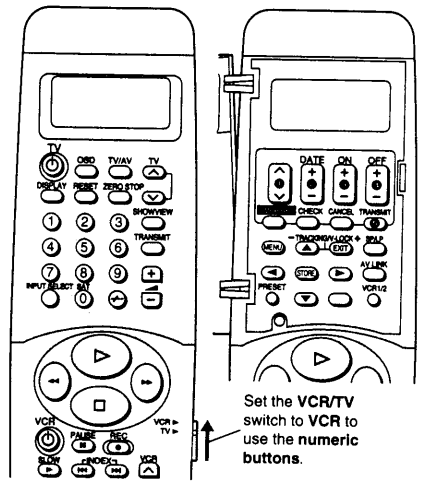
3 Select the desired TV station, if you want to view the broadcast.





Auto Set Up Feature Important Information

When your video cassette recorder is plugged in for the first time, the Auto Set Up feature will tune in your channels automatically.
However, under certain circumstances in some transmission areas certain channels may not be assigned a channel name or their normal channel position. If this is the case they will need to be tuned manually. If Auto Set up is not successful, please follow the steps below.

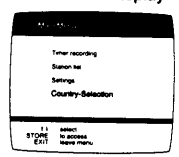


Set the **VCR/TV** switch to **VCR** to use the **numeric buttons**.

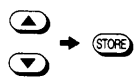
Operations

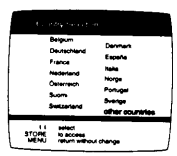
1 Press **MENU**, (if no clock display, press twice), and select **Country-Selection**.

On Screen Display

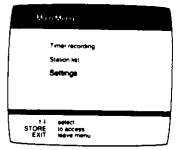


2 Select the desired country.

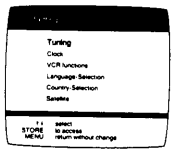




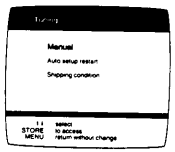
3 Select **Settings**.



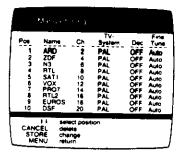
4 Select **Tuning**.



5 Select **Manual**.



6 The STATION LIST is now displayed. (Channel information will vary.)



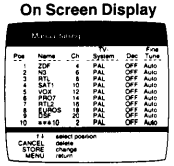
If all station names are displayed, no manual tuning adjustment is needed.

If manual tuning adjustment is required, follow the steps indicated below.

7 If the correct channels are not shown, the set up needs to be manually adjusted.

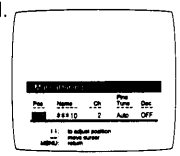
8 Select the station(s) named ✳✳✳□□.
Establish which channel you are viewing, by checking your TV Guide/ Newspaper.

On Screen Display



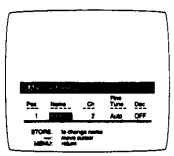
●"□□" is the position number.
This is the same as steps **11** and **12**.

9 Select the number location you want to set the channel.

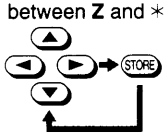


●It is also possible to select by pressing **numeric button**.
Ensure that the **VCR/TV** switch is set to **VCR**.

10 Next, highlight the TV station name.

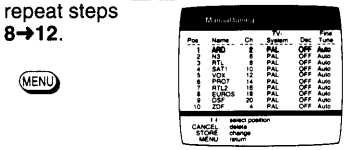


11 Enter characters into **all** five ✳✳✳□□ positions, from the table using the arrows and press **STORE** after each character. Use blank space if required, to enter a blank select the area between **Z** and ✳.



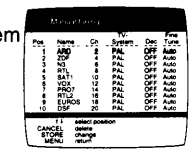
12 Press **MENU** once.

If any other TV station names are marked ✳✳✳□□, repeat steps **8→12**.



13 To amend a programme position repeat steps **8**, **9** and **12**.

14 When correctly tuned your system list will look like this. (Channel information will vary.)



Note:
When channels have been set with manual tuning, the channel position will need to be entered in the highlighted box the first time ShowView is used.

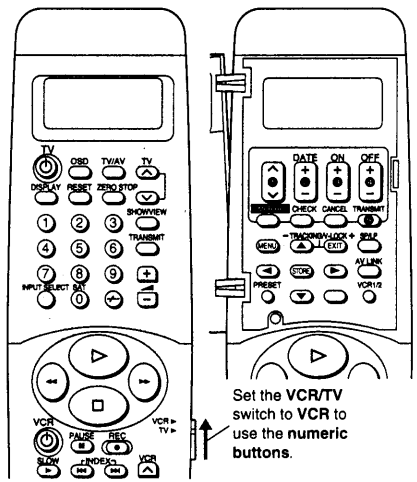
Satellite Settings

Manual Satellite Tuning when Connected to the Optional Panasonic Satellite Receiver

Auto Tuning is performed automatically after the VCR is connected to the optional Panasonic satellite receiver (VW-SAT1E). However, Manual Satellite Tuning should be performed according to the following method if necessary.

Preparations

●Confirm that the TV is on and the VCR viewing channel is selected.
●Turn on the VCR.



Set the **VCR/TV** switch to **VCR** to use the **numeric buttons**.

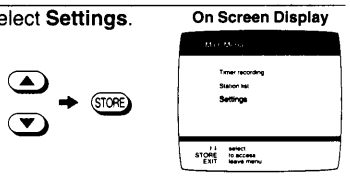
Follow the operation guide on screen display.

Operations

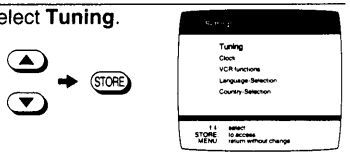
1 Press **MENU**.

2 Select **Settings**.

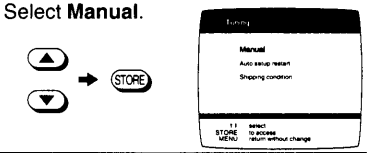
On Screen Display



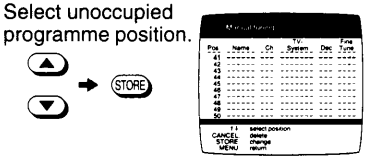
3 Select **Tuning**.



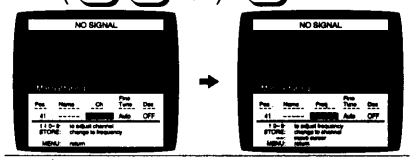
4 Select **Manual**.



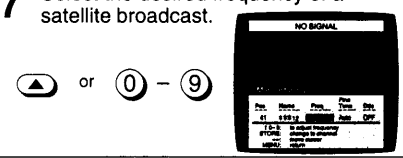
5 Select unoccupied programme position.



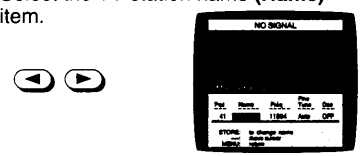
6 Make sure that the cursor is located at the **"Ch"** item and then press the **STORE** button.
●If the cursor is not located at the **"Ch"** item, move it to the **"Ch"** item using the ◄ ► buttons.



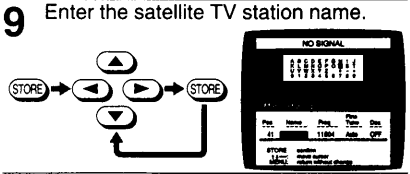
7 Select the desired frequency of a satellite broadcast.



8 Select the TV station name **(Name)** item.



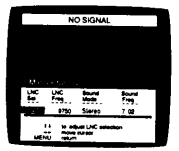
9 Enter the satellite TV station name.

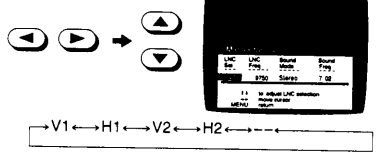


(Continued on the next page.)

10 Set the LNC Sel (Polarity).

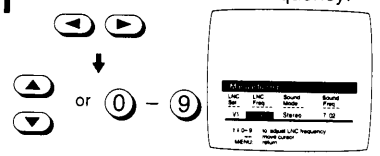
On Screen Display





→V1←→H1←→V2←→H2←

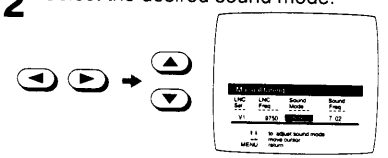
11 Select the desired LNC frequency.



or 0 – 9

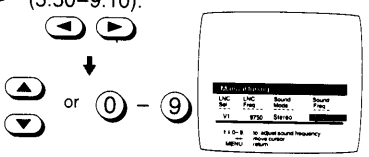
→9750←→10000←→10750←→11475←

12 Select the desired sound mode.



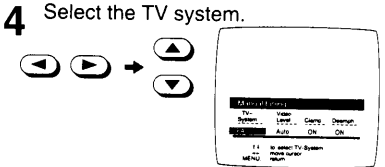
→Stereo←→Mono 1←→Mono 2←→Mono J←

13 Select the desired sound frequency (5.50–9.10).



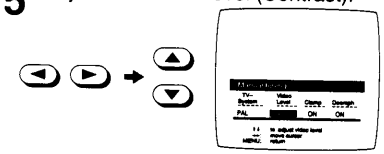
or 0 – 9

14 Select the TV system.



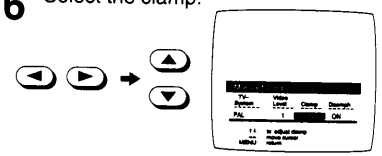
→PAL→MESECAM→

15 Adjust the Video Level (Contrast).



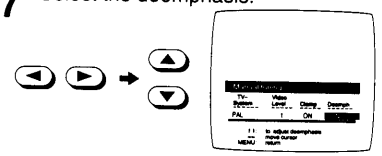
Auto←→1←→2 . . . . . 6←→7

16 Select the clamp.



- Default-setting is **ON** but some satellite broadcasts need to switch **Clamp** to **"OFF"**.

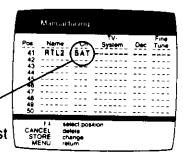
17 Select the deemphasis.



- Default-setting is **ON** but some satellite broadcasts need to switch **Deemph** to **"OFF"**.

18 Press **MENU**.

MENU



- **"SAT"** displayed in the **"Ch"** item indicates the broadcast station being received from the Panasonic satellite receiver (VW-SAT1E).

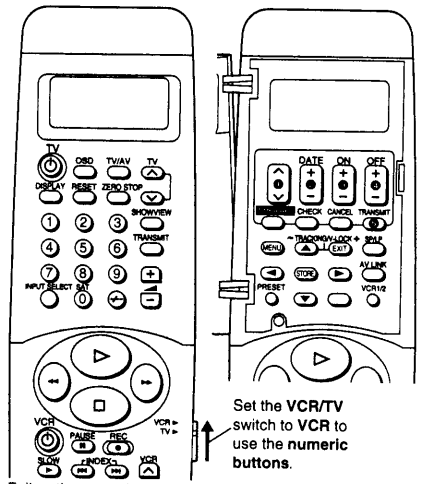
19 Press **EXIT**.

Satellite Tuning

When the RF connection of Ⓑ on the satellite receiver connection page has been performed, the following settings must be carried out in order to activate satellite control.
These settings are not necessary when the 21-pin cable Ⓐ has been used for the connection. (See page 13.)

Preparations

- Confirm that the TV is on and the VCR viewing channel is selected.
- Turn on the VCR.



Set the **VCR/TV** switch to **VCR** to use the **numeric buttons**.

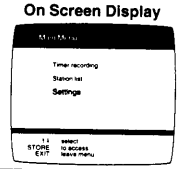
Follow the operation guide on screen display.

Operations

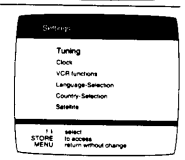
1 Press **MENU**.

2 Select **Settings**.

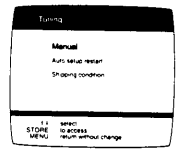
On Screen Display



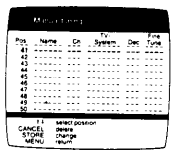
3 Select **Tuning**.



4 Select **Manual**.



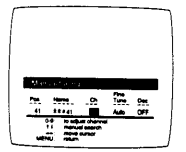
5 Select unoccupied programme position.



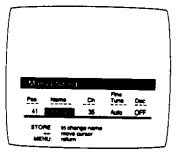
6 Select a channel **(Ch)** on which satellite broadcasts can be viewed.

- Ensure that the **VCR/TV** switch is set to **VCR**.

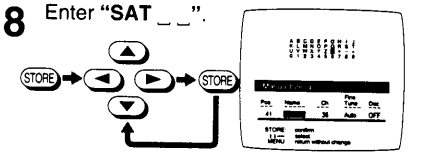
0 – 9



7 Select the TV station name **(Name)** item.



8 Enter **"SAT _ _"**.



- **"_ _"** indicates two blank spaces. Enter the space to the right of the **"Z"** on the keyboard.
- **"SAT "** is a special term; use it only when a satellite receiver is connected.
- If **"SAT "** is already displayed, this step is unnecessary.

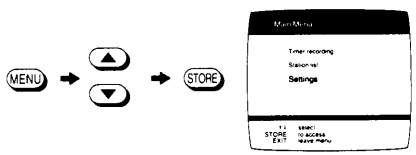
9 Press **MENU**, and then press **EXIT**.

Satellite Setting

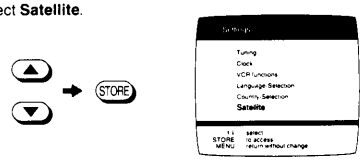
Proceed with the settings described below in order to activate the satellite receiver control functions.
These settings are supported only by the satellite receivers found on the attached list of compatible satellite receivers.
This setting is not required when connection has been made with an optional Panasonic satellite receiver (VW-SAT1E).

1 Press **MENU**, and then select **Settings**.

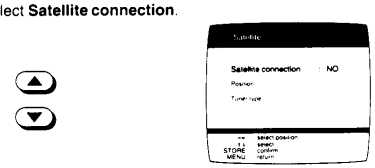
On Screen Display



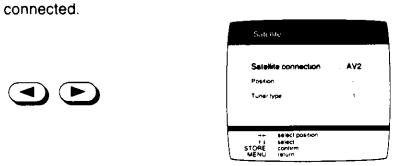
2 Select **Satellite**.



3 Select **Satellite connection**.



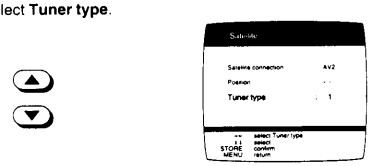
4 Select the position where the satellite receiver is connected.



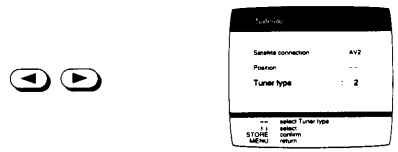
NO: When the satellite receiver is not connected to the VCR.
RF: When the satellite receiver is connected to RF IN socket of the VCR.
AV1: When the satellite receiver is connected to AV1 socket of the VCR.
AV2: When the satellite receiver is connected to AV2 socket of the VCR.

- The **Position** item is also automatically set when **RF** has been selected, and cannot be changed here.

5 Select **Tuner type**.



6 First check the attached list of compatible satellite receivers, and then set the tuner type number.
It is not possible to control a receiver which is not on the attached list of compatible satellite receivers.



- It is also possible to select by pressing **numeric button**.
  Ensure that the **VCR/TV** switch is set to **VCR**.

7 Press **STORE**, and then press **EXIT**.

Preset Type

The satellite receiver mode must be set before attempting to select satellite channels or perform timer recording. The procedure to set the mode can be divided into the following 5 types by satellite receiver. Check which one applies on the attached list before proceeding.
This setting is not required when connection has been made with an optional Panasonic satellite receiver (VW-SAT1E).

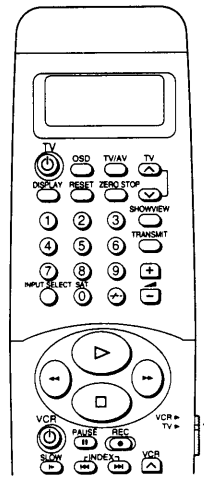
Preset Type	Controllable functions
A	Keep the satellite receiver's power ON.
B	No action needs to be taken. (The satellite receiver's power may even be OFF.)
C	After having turned on the satellite receiver's power, select the 2-digit display mode.
D	Turn on the satellite receiver's power, and switch to the tuner used by the VCR.
E	Turn on the satellite receiver's power, and switch to the tuner used by the VCR. Then select the 2-digit display mode for the satellite receiver.

Check out the compatible satellite receiver list on the attached list thoroughly before purchasing a new receiver.

Notes:

- The VCR may not be able to control some products or models of satellite receiver, due to the choice of remote control coding being beyond our control.
- Check that the satellite receiver can be properly controlled.
- Try satellite broadcast timer recording once to check that timer recording works properly.

How to select the satellite channel



Set the **VCR/TV** switch to **VCR** to use the **numeric buttons**.

Press the **numeric buttons** on the remote controller.

- Ensure that the **VCR/TV** switch is set to **VCR**.

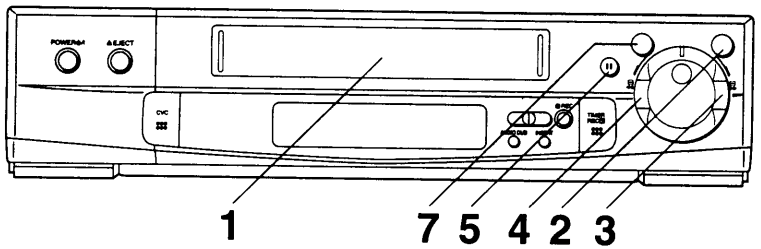
SAT 9: SAT 0 → SAT 0 → 9

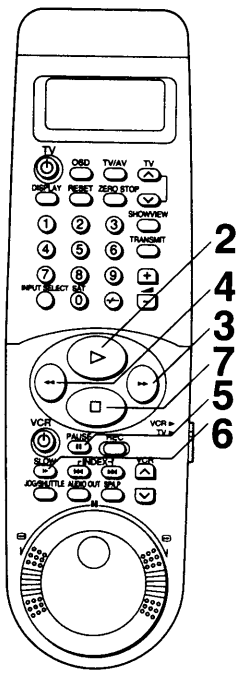
SAT 19: SAT 0 → 1 → 9

You do not need to press the first **"0" numeric button** if your VCR is connected to the optional Panasonic satellite receiver (VW-SAT1E).

- There will be a slight delay after pressing a button before channel change occurs. This is due to signal conversion.
- The range of satellite channels available for selection is 1 through 99.
- With some satellite receivers, it is not possible to select satellite channels up to 99.
- With some satellite receivers, it is not possible to select any more channels beyond the highest number of the channels which can be selected by the satellite receiver if that number is 99 or less.
- With some satellite receivers, it is necessary to leave a short interval after selecting one channel before attempting to select another channel.
- If the display on the satellite receiver fails to indicate the channels, refer to the operating instructions of the satellite receiver and follow the procedure for displaying the channels.

Playback





Operations	Display Symbols	
1		Insert a recorded cassette tape.
2 ▷		Start viewing the picture.
3 ▶▶		Search forward by tapping ▶▶ **(FAST FORWARD)**. ●To change back to normal playback, press ▷ **(PLAY)**.
4 ◀◀		Search backward by tapping ◀◀ **(REWIND)**. ●To change back to normal playback, press ▷ **(PLAY)**.
5 PAUSE		View a still picture. ●To continue the normal playback, press ▷ **(PLAY)**, **PAUSE** or ❚❚ **(PAUSE/STILL)**.
6 SLOW		View the slow motion picture. ●To continue the normal playback, press ▷ **(PLAY)**.
7 □		Stop viewing the picture.

Notes:

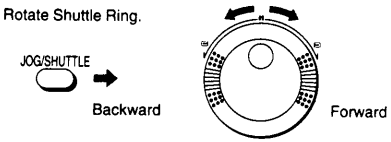
- If you keep ▶▶ **(FAST FORWARD)** or ◀◀ **(REWIND)** pressed in step **3** or **4**, search playback is activated while the button is pressed, and operation returns to normal playback when the button is released.
- The same operation can also be performed by turning the Shuttle Ring briefly clockwise or counterclockwise in step **3** or **4**. (It can only be performed using Shuttle Ring on the VCR, and not on the remote controller.)

Other Playback Functions

To change the Playback Speed

1 Press **JOG/SHUTTLE** on the remote controller or ❚❚ **(PAUSE/STILL)** on the VCR.
- Check that **"JOG/SHUTTLE ON"** is shown on the remote controller display before operating Jog Dial and Shuttle Ring on the remote controller. If it is not, press the **JOG/SHUTTLE** button again to make it appear.

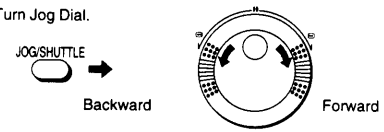
2 Rotate Shuttle Ring.



To locate the Desired Picture Exactly

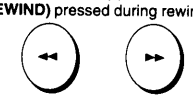
1 Press **JOG/SHUTTLE** on the remote controller or ❚❚ **(PAUSE/STILL)** on the VCR.
- Check that **"JOG/SHUTTLE ON"** is shown on the remote controller display before operating Jog Dial and Shuttle Ring on the remote controller. If it is not, press the **JOG/SHUTTLE** button again to make it appear.

2 Turn Jog Dial.



To obtain High Speed Picture during Fast Forward or Rewind

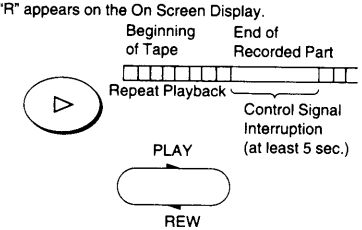
Keep ▶▶ **(FAST FORWARD)** pressed during fast forward.
Keep ◀◀ **(REWIND)** pressed during rewind.



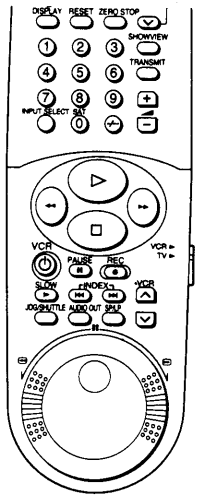
- The same operation can also be performed by turning the Shuttle Ring. (It can only be performed using Shuttle Ring on the VCR, and not on the remote controller.)

To playback the Recorded Part Repeatedly

Keep ▷ **(PLAY)** pressed for 5 seconds or more.
"R" appears on the On Screen Display.

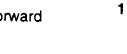


- Press □ **(STOP)** to release from Repeat Playback mode.



To return to a Specified Scene

1 Press **RESET** to set the counter to 0:00.00.

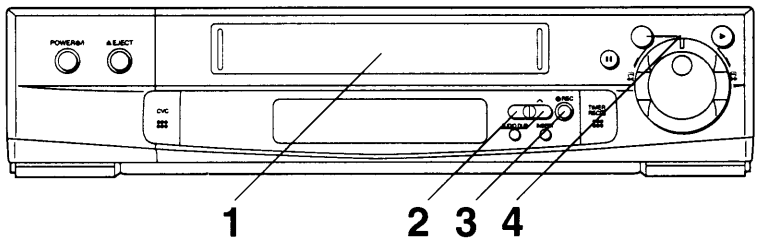


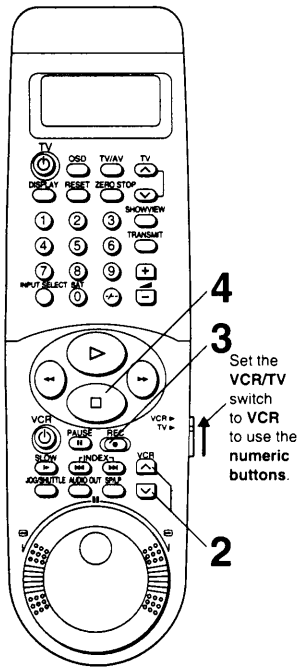
2 After playback, press **ZERO STOP** in the stop mode.
- The tape will be rewound or fast forwarded to 0:00.00 approximately.

Notes:

- Audio reproduction of linear (conventionally recorded) tapes will be monaural when played back on the FM Hi-Fi video recorders.
- Cue, review or slow playback will be automatically released after 10 minutes, and still playback after 5 minutes.
- In LP mode only:
  1. During any playback mode other than normal playback, the picture may have some noise bars, the colour may be unstable, or a black and white picture may appear.
  2. When playing back a tape which was recorded on another VCR, it may be necessary to adjust the Tracking Control. In some cases the picture quality may still be inferior. This is due to limitation of format.
  3. Depending on the TV set used, the playback picture may roll up or down during special playback (Pause, Cue, Review or Slow playback mode). However, this is not an indication of a malfunction.

Manual Recording





Operations	Display Symbols	
1		Insert a cassette tape. ●If it has already been inserted, press **POWER** ⏻/**I** **(VCR** ⏻) to turn the VCR on.
2	VCR	Select TV station. ●It is also possible to select by pressing **numeric button**. ●Ensure that the **VCR/TV** switch is set to **VCR**.
3	REC	Start recording.
4		Stop recording.

To select the Desired Tape Speed

Press **SP/LP** before recording.

SP/LP

To interrupt Recording

Press **PAUSE** or **II (PAUSE/STILL)** during recording.
Press again to continue recording.

PAUSE

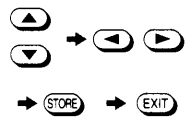
To record One TV Programme while Viewing Another Programme

1 Refer to the manual recording operations steps **1** to **3**.

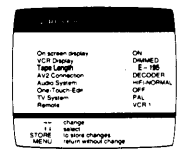
2 Select the TV programme on your TV set you wish to view at the present time.

To display the Approximate Remaining Tape Time

1 Select **Tape Length** from On Screen Display and select the corresponding cassette tape length. See page 45.



On Screen Display



◄ E-180: For E30, -60, -90, -120 and -180 tapes.
E-195: For E195 tape.
E-240: For E240 tape.
E-260 ►: For E260 and -300 tapes.

2 Press **DISPLAY**.

DISPLAY

Display Symbols

→Clock→Counter→**Remaining Tape Time**

●The remaining tape time may not be displayed correctly depending on the tape used.

Recording of Stereo and Bilingual Programmes

1 Recording is automatically made in the stereo or bilingual mode. This prevents errors in the selection of the dubbed or the original language.

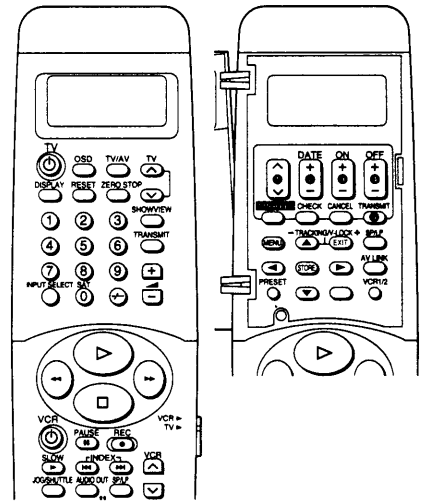
2 During playback press **AUDIO OUT** to select the desired sound mode. See page 6.

AUDIO OUT

Notes:

●When a video cassette with a broken off tab is inserted, the "⊡⊡" indication will flash to indicate that recording is not possible.

●The recording pause mode will be automatically released after 5 minutes, and be back to the stop mode.



The NICAM Broadcast System (NV-HD670EC only)

NV-HD670EC is equipped with the NICAM sound system also.
NICAM is a 2 Channel sound broadcast system to provide either a high quality stereo sound track or
2 independent MONO sound tracks, M1 and M2.
NICAM programmes are always accompanied by standard sound broadcasts and you can select the desired sound with **AUDIO OUT** during playback.

●The NICAM digital stereo sound can only be recorded on the Hi-Fi audio track.

●To record the regular sound (ordinary normal sound) on the FM audio tracks when a Stereo, Bilingual or NICAM programme is received, select **Mono ON** during manual tuning procedure. See page 40.

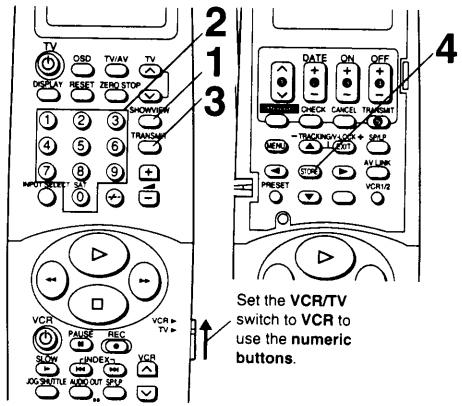
Important Note for the NICAM System

When NV-HD670EC is switched on, the tuner will automatically switch to a NICAM broadcast, if NICAM is being transmitted. During test transmissions, it is possible that the sound received doesn't correspond to the picture being viewed. In order to receive a synchronized sound and picture, select monaural sound with **AUDIO OUT** or **Mono ON** setting. This will only apply until NICAM transmissions are fully operational.
Even if the sound track is in MONO, the stereo indicator will appear.

Timer Recording

ShowView Programming

Programming is now easier than ever: simply enter the ShowView number provided in the programme schedule column carried by newspapers and magazines. ShowView numbers are numbers which are assigned to each programme listed in the TV programme schedule carried in newspapers and TV guides. When these numbers are entered and **TRANSMIT** is pressed, the numbers are converted into the actual programming.



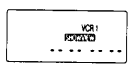
Preparations

- Insert a cassette tape with an intact erasure prevention tab.
- Confirm that the TV is on and the VCR viewing channel is selected.

Operations **Display Symbols**

1 Press **SHOWVIEW**.

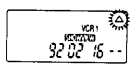
SHOWVIEW



2 Enter a ShowView number.

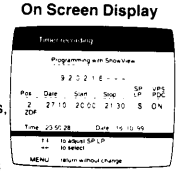
Example: 920216

- To select the desired tape speed, press **SP/LP** button.



3 Press **TRANSMIT**. **On Screen Display**

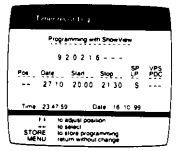
TRANSMIT



- To extend the ending time or to make any corrections, use buttons ▲ ▼ ◄ ►.
- Set **VPS/PDC** to **OFF** when the recording time is not the correct time (PDC/VPS time).
- See page 32 for VPS/PDC recording.

If the "--" appears in the programme position:

select the programme position of your VCR which receives the TV station you entered at step **2** using button ▲ or ▼.



- Once programming is performed after the programme position has been selected here, the guide channel will be automatically stored so that the correct position will appear when the ShowView code for this station is next entered.

When satellite broadcasts have been programmed:

Only when first time use ShowView code for Satellite channels, "--" appears on the programme position item.

In this case, press the **numeric buttons** to input the satellite channel.

- Press **SHOWVIEW** to release the ShowView mode.
- Ensure that the **VCR/TV** switch is set to **VCR**.

SAT 9: (SAT) 0 → (SAT) 0 → 9

SAT 19: (SAT) 0 → 1 → 9

You do not need to press the first **"0" numeric button** if your VCR is connected to the optional Panasonic satellite receiver (VW-SAT1E).

- Once programming is performed after the programme position has been selected here, the guide channel will be automatically stored so that the correct position will appear when the ShowView code for this station is next entered.

4 Press **STORE** to confirm.

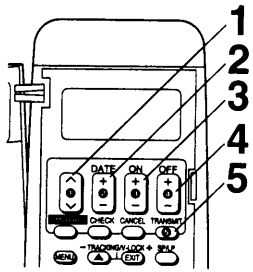
STORE

- The VCR will be change to the timer recording standby mode after about 20 seconds, if **STORE** is not pressed.

Notes:

- To release from the standby mode, press **TIMER REC**.
- When the ShowView number is used for programming, the recording time may be slightly longer than the actual programme time.
- When programming two or more programmes, repeat steps **1–4**.
- The procedures for checking and cancelling a timer programme are the same as on page 32.

Using the Remote Controller



For Example:

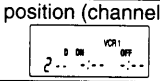
Programme position (channel);	2
Date;	27th, October
Starting time;	20:00
Ending time;	21:30

Preparation

- Insert a cassette tape with an intact erasure prevention tab.
- Open the door of the remote controller.

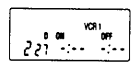
Operations **Display Symbols**

1 Set Programme position (channel) "2".



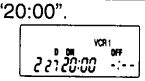
2 Set Date "27".

DATE



3 Set Starting time "20:00".

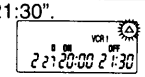
ON



- When it is kept pressed, the indication changes in 30-minute steps.

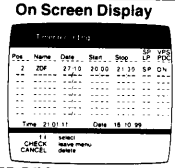
4 Set Ending time "21:30".

OFF



5 Press **TRANSMIT**. **On Screen Display**

TRANSMIT



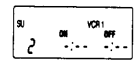
- The VCR will be in the timer recording standby mode after about 20 seconds.
- To release from the standby mode, press **TIMER REC**.
- See page 32 for VPS/PDC recording.
- To make a change to what has been programmed (for instance, to change **VPS/PDC** to **ON** or **OFF**), follow the procedure for On Screen Display Programming. (See pages 30–32.)

Weekly Timer Recording

In step **2**, select the desired day by pressing **DATE –**.

For example, SU (Sunday)

DATE



(SU=Sunday, MO=Monday, TU=Tuesday, WE=Wednesday, TH=Thursday, FR=Friday, SA=Saturday)

Daily Timer Recording

For this timer function, several groups of days can be selected.

Ⓐ Daily recording from Monday to Friday

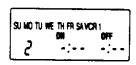
Ⓑ Daily recording from Monday to Saturday

Ⓒ Daily recording from Sunday to Saturday

In step **2**, select the desired days by pressing **DATE –**.

For example, Ⓒ

DATE



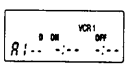
Timer Recording from External Signal Source

If Timer Recording is performed by a unit connected to the AV1 (TV), AV2 (DECODER/EXT) Socket or AV3 (Audio/Video input sockets), select the A1, A2 or A3 indicator for the programme position.

A1: Through the AV1 (TV) socket.

A2: Through the AV2 (DECODER/EXT) socket.

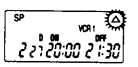
A3: Through the AV3 (AUDIO IN/VIDEO IN) sockets on front panel.



Selecting the Desired Tape Speed

Press **SP/LP** in any of steps **2–4**.

SP/LP



Checking and Cancelling a Timer Programme

The procedures for checking and cancelling a timer programme are the same as on page 32.

Note:

Timer recording of satellite broadcasts cannot be performed using ∨ ∧, **DATE**, **ON**, **OFF** and **TRANSMIT** on the remote controller.

Using On Screen Display

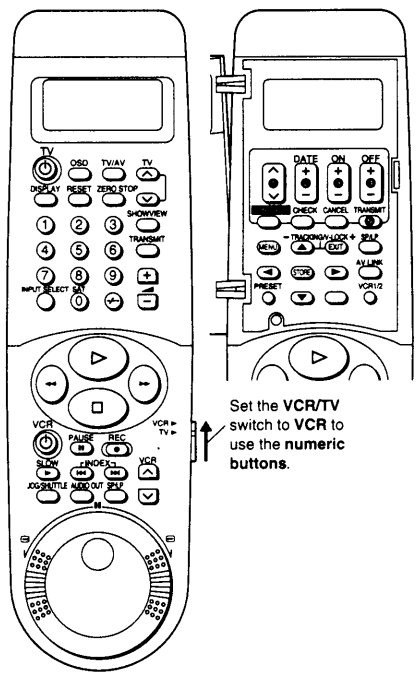
Up to 8 timer programmes can be recorded up to one month in advance by setting the timer, including weekly and daily programmes.

Preparations

- Insert a cassette tape with an intact erasure prevention tab.
- Confirm that the TV is on and the VCR viewing channel is selected.

For Example:

Programme position (channel);	2
Date;	27th, October
Starting time;	20:00
Ending time;	21:30
(Present date; 16th, October)	



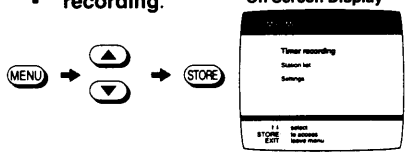
Set the **VCR/TV** switch to **VCR** to use the **numeric buttons**.

Follow the operation guide on screen display.

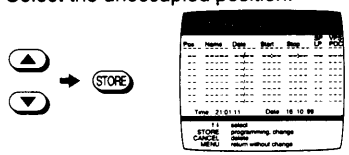
Operations

1 Press **MENU**, and then select **Timer recording**.

On Screen Display



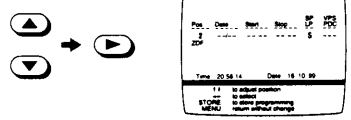
2 Select the unoccupied position.



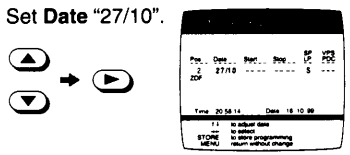
3 Set **Programme position** (channel) "2".

- Press ◄ to return to the previous item.
- It is also possible to select by pressing **numeric button**.

Ensure that the **VCR/TV** switch is set to **VCR**.

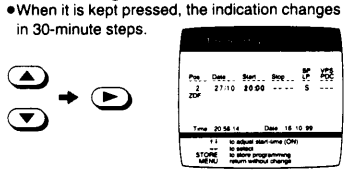


4 Set **Date** "27/10".



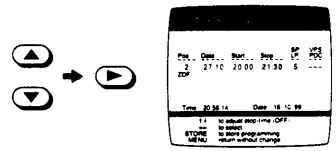
5 Set **Starting time** "20:00".

- When it is kept pressed, the indication changes in 30-minute steps.

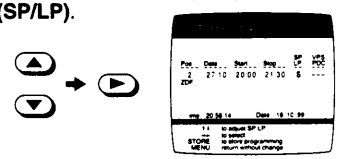


6 Set **Ending time** "21:30".

On Screen Display

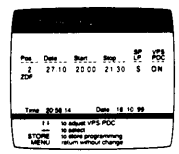


7 Select the desired **Tape speed (SP/LP)**.



8 Select **VPS/PDC ON** or **OFF (---)**.

- Set **VPS/PDC** to **OFF** when the recording time is not the correct time (PDC/VPS time).
- During satellite channel timer programming, **VPS/PDC** cannot be set to **ON**.
- See page 32 for VPS/PDC recording.



9 Press **STORE**.

10 To activate timer recording, press **TIMER REC**.

Weekly Timer Recording

In step **4**, select the desired day by pressing ▼.

Daily Timer Recording

For this timer function, several groups of days can be selected.

Ⓐ Daily recording from Monday to Friday
Ⓑ Daily recording from Monday to Saturday
Ⓒ Daily recording from Sunday to Saturday

In step **4**, select the desired days by pressing ▼.

Timer Recording from External Signal Source

If Timer Recording is performed by a unit connected to the AV1 (TV), AV2 (DECODER/EXT) Socket or AV3 (Audio/Video input sockets), select the A1, A2 or A3 for the programme position.

A1: Through the AV1 (TV) socket.
A2: Through the AV2 (DECODER/EXT) socket.
A3: Through the AV3 (AUDIO IN/VIDEO IN) sockets on front panel.

Setting other Programmes in Succession

Repeat steps **2–9**.

Satellite Channel Programmed Recording

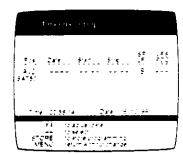
When selecting the programme position (channel), use the **numeric buttons** to select a satellite channel.

- Ensure that the **VCR/TV** switch is set to **VCR**.

SAT 9: SAT 0 → SAT 0 → 9

SAT 19: SAT 0 → 1 → 9

You do not need to press the first **"0" numeric button** if your VCR is connected to the optional Panasonic satellite receiver (VW-SAT1E).



- VPS/PDC programming is not possible in conjunction with satellite programmed recording.
- In the case of some satellite receivers, the power remains off for several seconds when timer recording commences.
- With some satellite receivers, the first several seconds will not be recorded when the timer recording function is used.
- With some satellite receivers, the power goes off if the recording is stopped while timer recording is still underway.

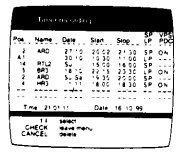
Checking a Timer Programme

- The VCR must be turned on, or the timer recording indicator "⏲" is lit.
- Confirm that the TV is on and the VCR viewing channel is selected.

Press **CHECK**.

- On Screen Display may be distorted in the PDC/VPS recording standby mode.

On Screen Display



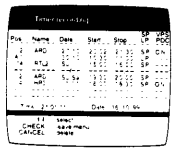
Cancelling a Timer Programme

- The VCR must be turned on, or in timer recording standby mode.
- Confirm that the TV is on and the VCR viewing channel is selected.

1 Press **CHECK**.

2 Select the desired timer programme.

3 Press **CANCEL**.



Note:

If a timer recording is not performed to the end (due to insufficient tape or cancellation by the user), the programmed timer recording data will be cancelled from the memory by 4 a.m. the next day.
However, if the Timer Record Function is activated at that time, the programmed timer recording data will be cancelled at 4 a.m. the next day.

PDC (Programme Delivery Control)/VPS (Video Programme System)

The Programme Delivery Control (PDC) or the Video Programme System (VPS) is a very convenient system which assures that the TV programmes you have programmed for timer recording will be recorded exactly from beginning to end, even if the actual broadcasting time differs from the scheduled time due to delayed start or extension of the programme duration. Also, if a programme is interrupted and, for example, some special news are inserted, the recording will also be interrupted automatically and resumed when the programme continues.

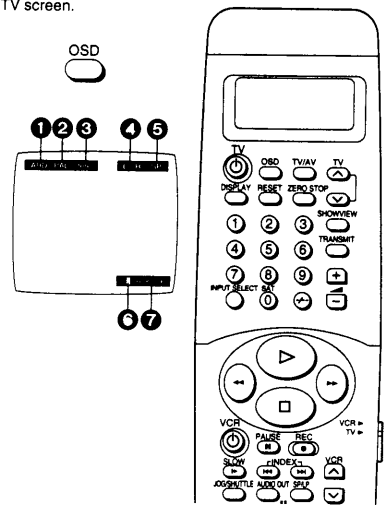
Depending on the signals sent from the broadcasting stations, the PDC/VPS system may not operate properly even when **VPS/PDC** has been set to **ON**. Please check with the broadcasters in your area for details.

- In the case of PDC/VPS recording, use the **correct** time (PDC/VPS time) for recording the TV programmes. PDC/VPS recording is not performed when the time (PDC/VPS time) is incorrect, even if only by one minute. To find out the correct time (PDC/VPS time), consult Teletext, a newspaper or magazine, etc.
- If the actual broadcasting times of timer recordings overlap (regardless of whether they are PDC/VPS controlled), the recording that starts first has always priority, and the recording of the later beginning programme will start only after the first timer recording has finished.
- When the PDC/VPS signal drops out because the broadcast signal is weak, or when a broadcasting station does not transmit a regular PDC/VPS signal, the timer recording will be performed in the normal mode (without PDC/VPS) even if it was programmed for PDC/VPS. In this case, even if the timer recording is performed, whatever has been programmed will not be cancelled at that particular time but at 4 a.m. on the following day.
- The start times of scheduled programmes listed in the newspaper or magazine may be changed at a later date. Set **VPS/PDC** to **OFF** when programming a programme whose start time has been subsequently changed. Particular care must be taken in this respect with ShowView programming since **VPS/PDC** is automatically set to **ON** in some countries.
- If a programme listed in a newspaper or magazine has two ShowView numbers, use the ShowView number for VPS/PDC if you wish to proceed with VPS/PDC recording using ShowView programming.
- After auto tuning, "– – –" appears for the **VPS/PDC** item at the outset in the case of a broadcasting station which is not transmitting VPS/PDC signals.
- For Belgium and Denmark, the default setting for the **VPS/PDC** item is **OFF**.

Other Functions

On Screen Display

Press **OSD** to make the On Screen Display appear on the TV screen.



❶ TV station

❷ TV system

❸ Stereo or Bilingual Indicator (NV-HD670EG)
When receiving a TV programme, the type of sound system in which it is broadcast is automatically indicated.

Stereo, M1 and M2 Indicator (NV-HD670EC)
When receiving a TV programme with the Stereo, Bilingual or NICAM sound system, the type of sound system in which it is broadcast is automatically indicated.

Stereo: When receiving a Stereo/NICAM stereo broadcast.
M1 M2: When receiving a Bilingual/NICAM dual-sound broadcast.
M1: When receiving a NICAM monaural broadcast.

❹ Audio Output Mode Indicators
The Left (L) and Right (R) Indicators show which sound mode is selected with **AUDIO OUT**.

Stereo: Both the L and R Indicators appear.
Left: The L Indicator appears.
Right: The R Indicator appears.
Normal: Both the L and R Indicators don't appear.

❺ Tape speed indicator

❻ Tape running display

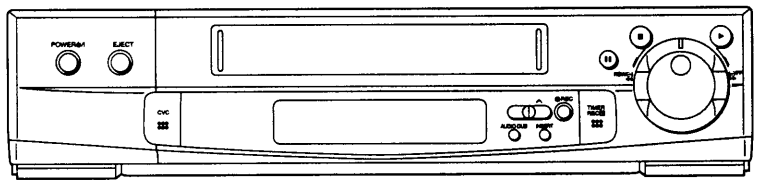
Stop, Eject	■
Rewind	◀◀
Fast Forward	▶▶
Playback	▶
Recording	●
Repeat Playback	R
Insert Editing	INSERT
AV Insert Editing	AV INSERT
Audio Dubbing	ADUB

❼ Present time/Tape counter/Remaining tape time/ Index Search

Information	Display
Present time	17:24:31
Tape counter	–2:35.47
Remaining tape time	REMAIN 2:34
Index Search	▶▶ 02

Notes:

- When the item **"On screen display"** is set to OFF (See page 44.), the On Screen Display will not appear.
- When the programme position AV is selected or during playback, the On Screen Display (❶, ❷, ❸) will not appear.
- The On Screen Display does not appear during special playback.
  However, editing display such as **"ADUB"** appears in position ❻, ❼ even during still picture.



VHS Index Search System

It is very easy to find the beginning of each recording, because a special index signal is recorded at the start of each recorded segment on the tape.

For example:
Searching for the 2nd recorded segment in the forward direction.

Press **INDEX ▶▶I** twice.
(This operation is performed while the VCR is in the stop mode or normal playback mode)

Display Symbols

- After finding the specific recorded segment, playback starts automatically.
- For the reverse direction, press **INDEX I◀◀**.
- Up to 20 index signals can be searched for in both directions.
- When the opposite **INDEX** button is pressed, the number shall be decreased till 1.
- The figure on the display is decremented by 1 each time an index signal is located.
- The INDEX search function can only work correctly, if the index signals are spaced at least 3 minutes apart in the SP mode and 5 minutes apart in the LP mode.

Recording Index Signals
Index signals are recorded in following cases.
- When a recording is started by pressing **REC**.
- When **REC** is pressed during recording.
- When timer recording is activated.

NTSC Playback

Tapes recorded in the NTSC system can be played back with this VCR via a PAL system TV set.
- The playback picture may roll up or down. If the TV set is equipped with a V-HOLD control, it may be possible to stop the picture movement by adjusting this control.
- Depending on the TV set used, the picture may be in black and white. However, this is not an indication of a malfunction.

S-VHS Quasi Playback (SQPB)

It is also possible to playback tapes recorded in the S-VHS system.
- Some picture noise may occur depending on the type of tape used.
- It is not possible to fully obtain the high resolution that S-VHS is capable of.
- It is not possible to record in the S-VHS system with this VCR.

Other Automatic Functions

Automatic Playback
When a cassette without an erasure prevention tab is inserted, the VCR starts playback automatically.

VCR-off Playback
When the VCR is off, an inserted cassette can be played back by pressing ▷ **(PLAY)**.

Automatic Rewinding
When the tape reaches its end during recording (except for timer recording) or playback, it will automatically be rewound to the beginning.

Automatic Switching Off and Ejection
When the VCR is switched off, and inserted cassette can be ejected simply by pressing **EJECT**. The VCR will eject the cassette and automatically turn itself off again.

Editing

Assembly Editing

This function can be used to make up an edited tape from other recordings or video sources.

A new scene can be added to the end of a previous one.

Preparations
- Connect a movie camera or another VCR to this VCR as shown.
- Insert a recorded cassette tape with an intact erasure prevention tab.
- Select the video source required by pressing **INPUT SELECT** to set A1, A2 or A3.
  - A1: Through the AV1 (TV) socket.
  - A2: Through the AV2 (DECODER/EXT) socket.
  - A3: Through the AV3 (AUDIO IN/VIDEO IN) sockets on front panel.

Operations

1 Press **❚❚ (PAUSE/STILL)** on the recording VCR or **JOG/SHUTTLE** on the remote controller.

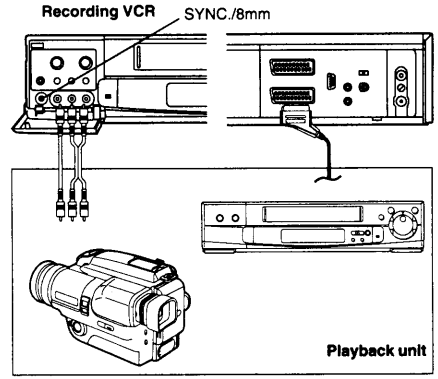
2 Search for the end of the previous recording.

3 Press **REC** to switch the VCR from the pause mode to the recording standby mode.

4 Start the new recording by pressing **PAUSE** or **❚❚ (PAUSE/STILL)** again.

5 Press □ **(STOP)** to stop recording.

Note:
The new sound will be recorded on both the normal and Hi-Fi sound tracks, only monaural sound recording is possible on the normal sound tracks.



Synchronized Editing

It is possible to synchronize the playback start and stop of the Movie Camera with the recording start and stop of this VCR.

Preparations
- Select **One-Touch-Edit** to OFF for synchronized editing. (See page 46.)
- Connect a Movie Camera to this VCR with Synchro Connection Cord (VW-K10E/VW-K1E). Refer to the Operating Instructions of the movie camera for details on which code to use.

1 Put the VCR in the recording pause mode by pressing **REC** and **PAUSE** or **❚❚ (PAUSE/STILL)**.

2 Put the Movie Camera in the still playback mode at the point where you want to start editing.

3 Press **❚❚ (PAUSE/STILL)** on the recording VCR or **PAUSE** on the remote controller.
- The Movie Camera changes over to the playback mode and the dubbing will start automatically.

Synchronized Editing between the VCRs
When editing from another VCR equipped with Synchro Edit Socket, synchronized start and stop of both VCRs can be activated from this VCR.

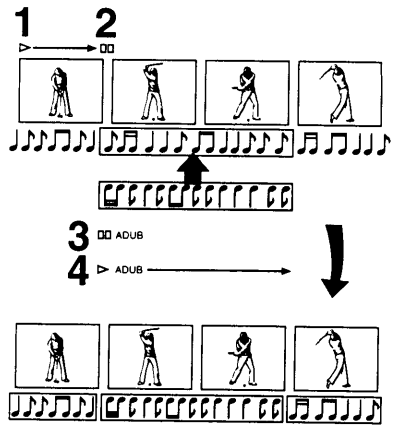
The operation is the same as described for synchronized editing from a Movie Camera.

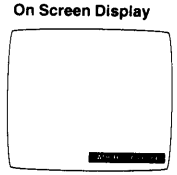
Audio Dubbing

The audio dubbing is made on the normal audio track and erases the original sound on this track. On Hi-Fi audio tracks, however, the original sound is maintained.

Preparations

- Insert a recorded cassette with an intact erasure prevention tab.
- Select the video source required by pressing **INPUT SELECT** to set A1, A2 or A3.
  - A1: Through the AV1 (TV) socket.
  - A2: Through the AV2 (DECODER/EXT) socket.
  - A3: Through the AV3 (AUDIO IN) sockets on front panel.



Operations	Display Symbols	
1		Search for the starting point for audio dubbing.
2		Press **❚❚ (PAUSE/STILL)** at the starting point.
3	On Screen Display 	Set for audio dubbing by pressing **AUDIO DUB**. ●On some televisions, the screen image may become unstable or begin to scroll at this point. However, this is not an indication of a malfunction.
4		Start recording the new sound by pressing **❚❚ (PAUSE/STILL)**. ●Stop recording by pressing **■ (STOP)**.

Note:
The new sound will be recorded on the normal sound track of the tape, and the original sound will remain on the Hi-Fi sound track. Only monaural sound recording is possible on the normal sound track.

To hear the new sound, select the normal sound track by pressing **AUDIO OUT**.
To hear the new sound and original sound mixed together, set **Audio System** to HIFI-MIX. (See page 45.)

Audio dubbing with Panasonic Hi-Fi VCR

General

a) Due to VHS format reasons, audio dubbing can be performed only on the normal audio track.
b) The Hi-Fi audio tracks cannot be influenced without erasing the video signal.
c) The audio dubbing function is provided with an automatic recording function. The volume level cannot be adjusted. When dubbing to the Hi-Fi VCR, the volume level must be considered in advance.
d) There are three types of audio dubbing (A–C):

A. Audio dubbing on the normal audio track

1. Select the desired AV input.
1.2. The microphone input may also be selected. In this case, the microphone signal has priority. Disconnect the microphone when other audio signals are to be used.
2. Locate the recording starting point by pressing **▶ (PLAY)-❚❚ (PAUSE/STILL)**.
3. Press **AUDIO OUT** three times to select the normal audio track.
4. Press **AUDIO DUB**.
5. Start audio dubbing by releasing the pause function.
6. After audio dubbing has been completed, rewind the tape and make sure that the normal audio track is selected. (Step **3**)
7. Check the audio dubbing.

B. Audio dubbing on the normal audio track with Hi-Fi Mix function

1. Select the desired AV input.
2. Locate the recording starting point by pressing **▶ (PLAY)-❚❚ (PAUSE/STILL)**.
3. The Hi-Fi tracks should be set to playback.
   - ●When a videocassette is inserted, the Hi-Fi tracks are automatically set to playback.
   - ●Hi-Fi tracks must be recorded. Copy the audio signal, if necessary.
4. Press **AUDIO DUB**.
5. Start audio dubbing by releasing the pause function.
6. After audio dubbing has been completed, rewind the tape and set **Audio System** to HIFI-MIX. (See page 45.)
7. Check the audio dubbing.
   The original sound and the new sound are heard simultaneously.

C. Audio dubbing on the normal audio track with original sound and new sound

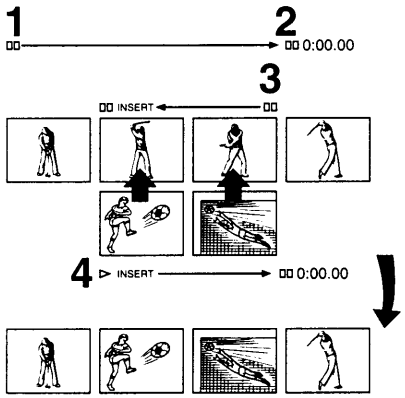
1. Select the desired AV input.
2. Locate the recording starting point by pressing **▶ (PLAY)-❚❚ (PAUSE/STILL)**.
3. The Hi-Fi tracks should be set to playback.
   - ●When a videocassette is inserted, the Hi-Fi tracks are automatically set to playback.
   - ●Hi-Fi tracks must be recorded. Copy the audio signal, if necessary.
4. Press **AUDIO DUB**.
   - ●Input the original signals of the Hi-Fi tracks (Audio-Out) to a mixing console (optional) and mix with the new sound as required.
5. Start audio dubbing by releasing the pause function.
6. After audio dubbing has been completed, rewind the tape and make sure that the normal audio track is selected. (Step **3**)
7. Check the audio dubbing.

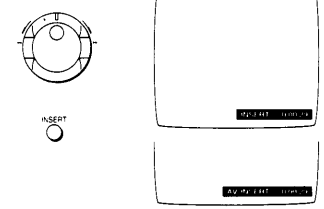
Insert Editing

This is used to substitute one scene for another providing.

Preparations

- Insert a recorded cassette with an intact erasure prevention tab.
- Select the video source required by pressing **INPUT SELECT** to set A1, A2 or A3.
  - A1: Through the AV1 (TV) socket.
  - A2: Through the AV2 (DECODER/EXT) socket.
  - A3: Through the AV3 (AUDIO IN/VIDEO IN) sockets on front panel.



Operations	Display Symbols	
1		Press ❚❚ **(PAUSE/STILL)** on recording the VCR.
2		Search for the Edit out (ending) point, and set the counter to 0:00.00 by pressing **COUNTER RESET**.
3		Search for the Edit in (starting) point, and press **INSERT**. ● If you want to replace the sound on the "normal" audio track, press **AUDIO DUB**, too. (AV Insert Editing)
4		Start insert editing by pressing ❚❚ **(PAUSE/STILL)**. ● The insert editing will finish when the counter reaches 0:00.00.

Note:
Insert Editing cannot be used on blank sections of a tape. In this case use Assembly Editing first.

The new sound will be recorded on the Hi-Fi sound track. If AUDIO DUB selected, the new sound will also be recorded on the normal sound track.

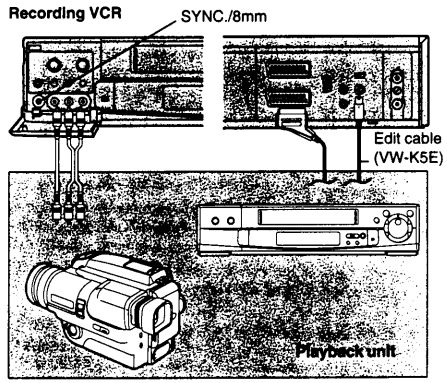
Only monaural sound recording is possible on the normal sound tracks.

One-Touch-Editing

With this editing, it is easy to perform repeated assemble editing, insert editing or audio dubbing operations.

Preparations

- Before proceeding with the connections, check that the AC mains lead of both VCRs have been connected.
- Before the VCR is connected to a movie camera or another VCR, select **One-Touch-Edit** to ON. (See page 46.) The playback VCR display or movie camera viewfinder image may be abnormal if the edit cable is connected with **One-Touch-Edit** left OFF.
- Connect a movie camera or another VCR to this VCR as shown with an edit cable (VW-K5E). In case of you connect this unit to a VCR or a movie camera equipped with a LANC socket, use the **SYNC./8 mm** socket. Also refer to the operating instructions for the playback unit.
- Insert a recorded cassette tape with an intact erasure prevention tab.
- Select the video source required by pressing **INPUT SELECT** to set A1, A2 or A3.
  - A1: Through the AV1 (TV) socket.
  - A2: Through the AV2 (DECODER/EXT) socket.
  - A3: Through the AV3 (AUDIO IN/VIDEO IN) sockets on front panel.
- Upon completion of the One-Touch Editing, disconnect the edit cable.



Operations

1 Press ❚❚ **(PAUSE/STILL)** on the recording VCR or **JOG/SHUTTLE** on the remote controller.

JOG/SHUTTLE

2 Search for the end of the previous recording.

- Check that **"JOG/SHUTTLE ON"** is shown on the remote controller display before operating Jog Dial and Shuttle Ring on the remote controller. If it is not, press the **JOG/SHUTTLE** button again to make it appear.

3 Press **REC** to switch the VCR from the pause mode to the recording standby mode.

REC

- The playback VCR will be in still mode.
- If **INSERT** or **AUDIO DUB** is pressed instead of **REC**, Insert Editing or Audio Dubbing can be performed.

4 Search for the Edit in (starting) point on the playback unit.

- Check that **"JOG/SHUTTLE ON"** is shown on the remote controller display before operating Jog Dial and Shuttle Ring on the remote controller. If it is not, press the **JOG/SHUTTLE** button again to make it appear.

5 Start One-Touch-Editing by pressing **PAUSE** or ❚❚ **(PAUSE/STILL)** again.

PAUSE

6 Press **PAUSE** or ❚❚ **(PAUSE/STILL)** at the Edit out (ending) point on the playback unit.

PAUSE

- For Editing in succession, repeat **4** to **6**.

7 Press □ **(STOP)** to stop editing.

□

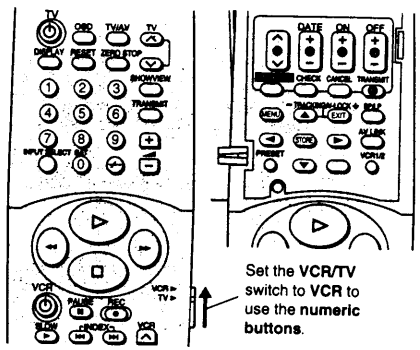
Storing TV Broadcasts into your VCR

Introduction

The VCR is fitted with its own tuner (just like a normal TV set) and can be pre-set to receive up to 99 TV broadcast stations.
If VCR is not correctly tuned by Auto setup, follow the procedure bellow.

Preparations

- Confirm that the TV is on and the VCR viewing channel is selected.
- Turn on the VCR.



Set the **VCR/TV** switch to **VCR** to use the **numeric buttons**.

Manual Tuning Procedure

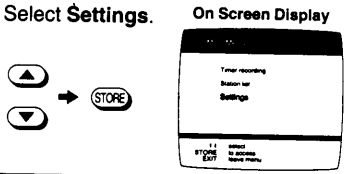
Follow the operation guide on screen display.

Operations

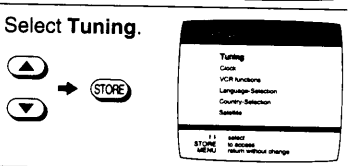
1 Press **MENU**.

2 Select **Settings**.

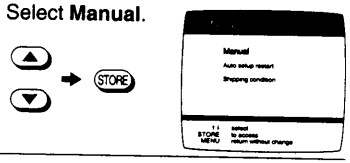
On Screen Display



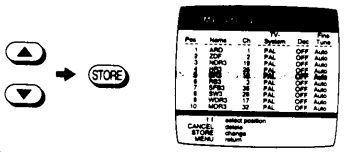
3 Select **Tuning**.



4 Select **Manual**.

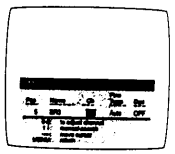


5 Select desired programme position.



6 Select Channel **(Ch)**.

- Ensure that the **VCR/TV** switch is set to **VCR**.



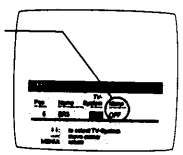
7 Select **Dec ON** or **Dec OFF**.

ON: To preset pay TV stations.
OFF: To preset normal TV stations.

8 Use ◄ ► to display the next screen.
Select **TV System**.

PAL: For receiving PAL signal.
MESECAM: For receiving SECAM signal.

NV-HD670EC only



9 **NV-HD670EC only**
Select **Mono OFF**.

- Select **Mono ON** to record the normal sound during a stereo, bilingual or NICAM broadcast or if the stereo sound is distorted due to inferior reception conditions.

10 Press **MENU**, and then press **EXIT**.

Channel Plan

Channel Indication	TV Channel	
	Germany/Italy	Other Countries
2–12	*E2–E12	E2–E12
13–20	A–H (Only Italy)	—
21–69	21–69	21–69
74–78	S01–S05	S1–S5
80–82	S1–S3	M1–M3
83–89	S4–S10	M4–M10
90–99	S11–S20	U1–U10
121–141 Hyperband	**S21–S41	S21–S41

*In Italy: H1...(11), H2...(12)
**Only for 8 MHz channel raster

To change the programme position or TV station name:

After step **5** but before step **8**, select the programme position **(Pos)** or TV station name **(Name)** item using ◄ ►, and then make the desired change.
(See pages 17–18.)

- No changes can be made to the TV station name while "SAT " is displayed when **Satellite connection** is set to **RF**. (See page 22.)

Fine Tuning Procedure

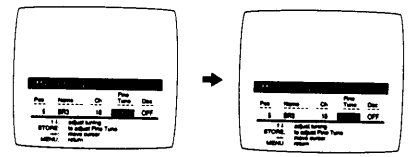
Follow steps **1** to **5** on page 40.

6 Select **Fine Tune**.

7 Press ▲ or ▼ to obtain the best tuning condition.

- To return the tuning to its former state, press **STORE**.

On Screen Display



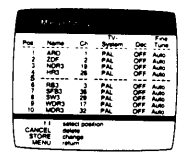
8 Press **MENU**, and then press **EXIT**.

Blanking of Unoccupied Programme positions

Follow steps **1** to **4** on page 40.

5 Select the desired TV station.

6 Press **CANCEL**.



- Repeat steps **5** and **6** for another unoccupied programme positions to skip during the selection of the programme positions.

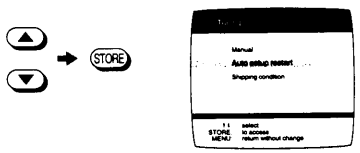
7 Press **EXIT**.

Auto Setup Restart

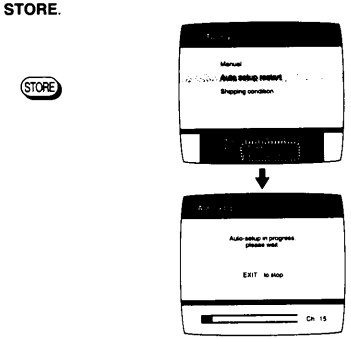
When your address changes, follow the procedure below.
Follow the steps **1** to **3** on page 40.

4 Select **Auto setup restart**.

On Screen Display



5 Press **STORE**.

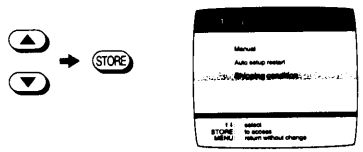


- After the Auto setup, select the your country to set TV station list, guide number for ShowView and language. See page 16.

Shipping Condition

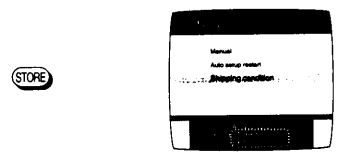
If you want to return the VCR to the factory-preset condition, follow the procedure below.
Follow the steps **1** to **3** on page 40.

4 Select **Shipping condition**.



5 Press **STORE**.

6 Press **STORE** again.



Note:
To re-tune VCR, disconnect mains lead and then reconnect mains lead. If VCR is off, turn on the VCR. Auto setup starts.

Setting the Clock of your VCR

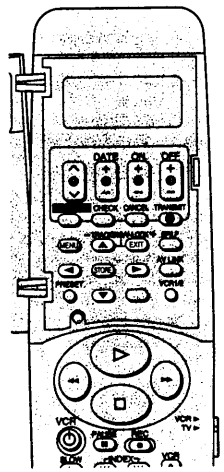
The built-in clock is used to activate the timer for automatic recording and must be set to the correct time.

The built-in digital clock employs the 24-hour system.

If VCR is not correctly set by Auto setup, follow the procedure below.

Preparations

- Confirm that the TV is on and the VCR viewing channel is selected.
- Turn on the VCR.



Manual Clock Setting

Follow the operation guide on screen display.

Operations

1 Press **MENU**, and then select **Settings**.

2 Select **Clock**.

3 Select **Manual setting**.

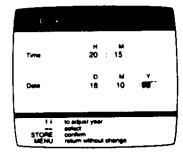
4 Set **Time (H/M)**.
- When it is kept pressed, the indication changes in 30-minute steps.
- Press ◀ to return to the previous item.

5 Set **Date (D)**.

6 Set **Month (M)**.

7 Set **Year (Y)**.
- There is no need to press ▶.

On Screen Display



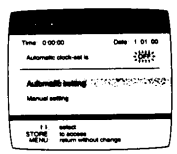
8 Press **STORE**.
- The clock will start.

9 Press **EXIT**.

Automatic Clock Setting

Follow steps **1** to **2** of the above procedure.

3 Select **Automatic setting**.



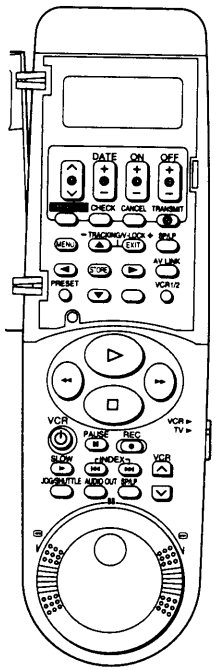
4 Press **STORE**.
- The clock is set automatically.

Notes:
- The clock operates for at least 60 minutes by its backup system in the event of power failure.
- When the item **"Automatic clock-set is"** is ON on screen display, Automatic time correcting function is activated every day.
  The Automatic time correcting function is only activated when the power is off. This function is not activated during timer recording standby mode.

Settings Using On Screen Display

Preparations

- Confirm that the TV is on and the VCR viewing channel is selected.
- Turn on the VCR.



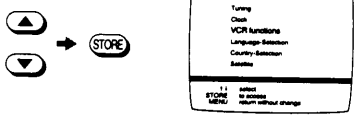
VCR functions

On Screen Display

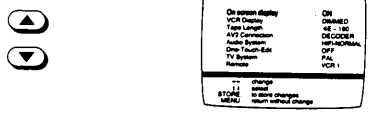
1 Press **MENU**, and then select **Settings**.

On Screen Display

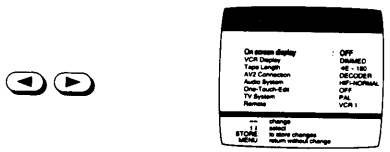
2 Select **VCR functions**.



3 Select **On screen display**.



4 Select **ON** or **OFF**.



ON: The On Screen Display will appear on the TV screen by pressing **OSD**.
OFF: The On Screen Display will not appear even if **OSD** is pressed.

5 Press **STORE**, and then press **EXIT** to make On Screen Display disappear.

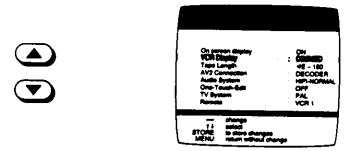
STORE ➡ EXIT

VCR Display

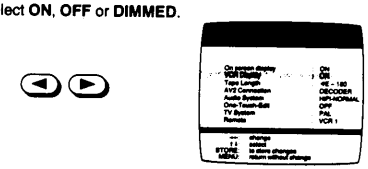
Follow steps 1 and 2 on page 44.

3 Select **VCR Display**.

On Screen Display



4 Select **ON**, **OFF** or **DIMMED**.



ON: When VCR is turned off, the characters are lit in the VCR display.
OFF: When VCR is turned off, the characters are not lit in the VCR display.
DIMMED: When VCR is turned off, the characters are dimmed in the VCR display.

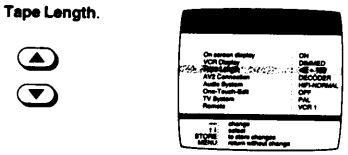
5 Press **STORE**, and then press **EXIT** to make On Screen Display disappear.

STORE ➡ EXIT

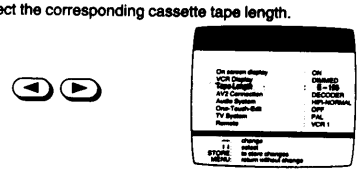
To select the Corresponding Cassette Tape Length for Displaying the Approximate Remaining Tape Time

Follow steps 1 and 2 on page 44.

3 Select **Tape Length**.



4 Select the corresponding cassette tape length.



◀ E-180: For E30, -60, -90, -120 and -180 tapes.
E-195: For E195 tape.
E-240: For E240 tape.
E-260 ▶: For E260 and -300 tapes.

- The times displayed may differ depending on the tape used.

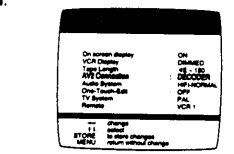
5 Press **STORE**, and then press **EXIT** to make On Screen Display disappear.

STORE ➡ EXIT

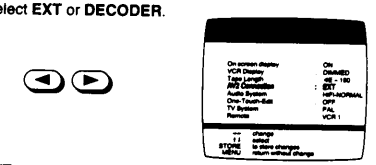
AV2 Connection

Follow steps 1 and 2 on page 44.

3 Select **AV2 Connection**.



4 Select **EXT** or **DECODER**.



EXT: When another VCR or satellite receiver is connected to the AV2 (DECODER/EXT) socket.
DECODER: When the decoder is connected to the AV2 (DECODER/EXT) socket.

If **Satellite connection** is set to **AV2** (See page 22.), **AV2 Connection** is set to **EXT** automatically.

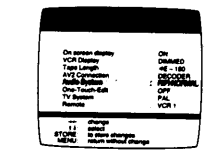
5 Press **STORE**, and then press **EXIT** to make On Screen Display disappear.

STORE ➡ EXIT

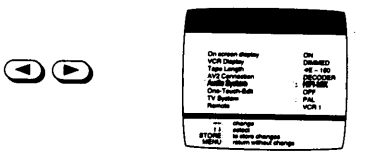
Audio System

Follow steps 1 and 2 on page 44.

3 Select **Audio System**.



4 Select **HIFI-NORMAL** or **HIFI-MIX**.



HIFI-NORMAL: Normally set at this position to reproduce the better sound available from the Hi-Fi track.
HIFI-MIX: Both sound tracks (the Hi-Fi sound track and the normal sound track) are played back mixed together. Use this setting when playing back a cassette tape which has been insert edited or audio dubbed.

5 Press **STORE**, and then press **EXIT** to make On Screen Display disappear.

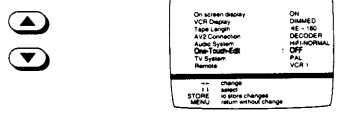
STORE ➡ EXIT

One-Touch-Edit

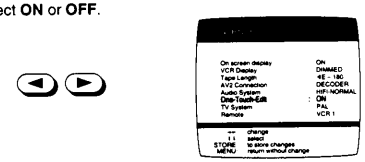
Follow steps **1** and **2** on page 44.

On Screen Display

3 Select **One-Touch-Edit**.



4 Select **ON** or **OFF**.



ON: For One-Touch-Editing.
OFF: For editing with editing controller or synchronized editing.

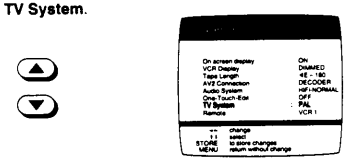
5 Press **STORE**, and then press **EXIT** to make On Screen Display disappear.

STORE ➡ EXIT

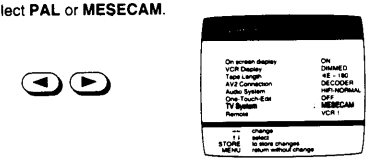
To set the Colour TV System

Follow steps **1** and **2** on page 44.

1 Select **TV System**.



2 Select **PAL** or **MESECAM**.



- Set according to the colour TV system used during playback or external recording.

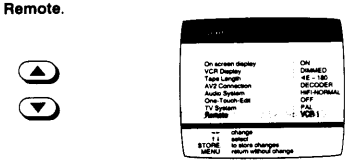
5 Press **STORE**, and then press **EXIT** to make On Screen Display disappear.

STORE ➡ EXIT

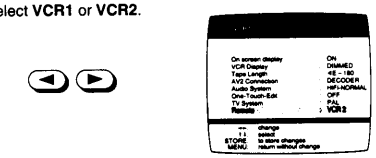
Remote Control Mode

Follow steps **1** and **2** on page 44.

3 Select **Remote**.



4 Select **VCR1** or **VCR2**.



VCR1: Set to this position on both the VCR and remote controller for normal use with one VCR.
VCR2: Set to this position when using two Panasonic VCRs.
This allows to operate VCR1 or VCR2 with remote controller.

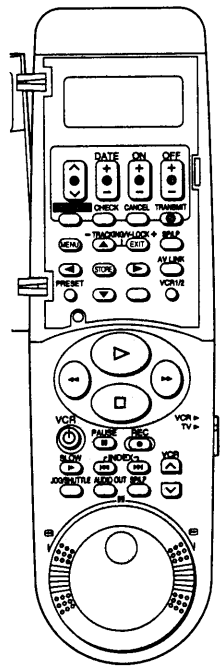
- When changing the remote control mode, please be sure to press **STORE**. And then press **VCR 1/2** to change the remote control mode of the remote controller. If this is not done, it will not be possible to operate the VCR using the remote controller.

5 Press **EXIT** to make On Screen Display disappear.

EXIT

Language-Selection

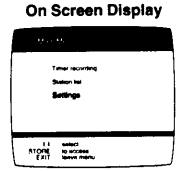
To change the language setting for On Screen Display, follow the steps bellow.



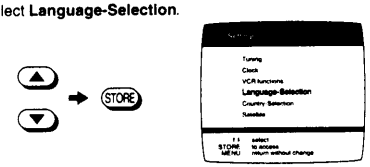
1 Press **MENU**, and then select **Settings**.

On Screen Display

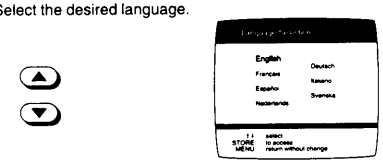
MENU ➡ ➡ STORE



2 Select **Language-Selection**.



3 Select the desired language.



4 Press **STORE**, and then press **EXIT**.

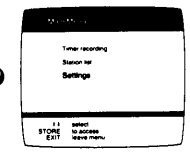
STORE ➡ EXIT

Country-Selection

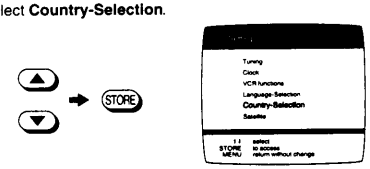
To change the country setting, follow the steps bellow.

1 Press **MENU**, and then select **Settings**.

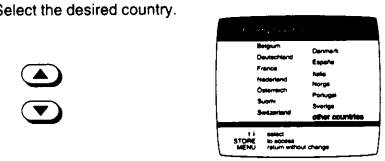
MENU ➡ ➡ STORE



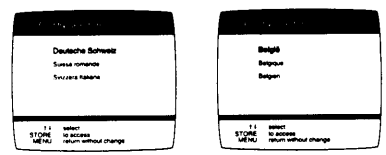
2 Select **Country-Selection**.



3 Select the desired country.



- When Switzerland or Belgium has been selected, operation moves to the screen which follows. Select the desired item.

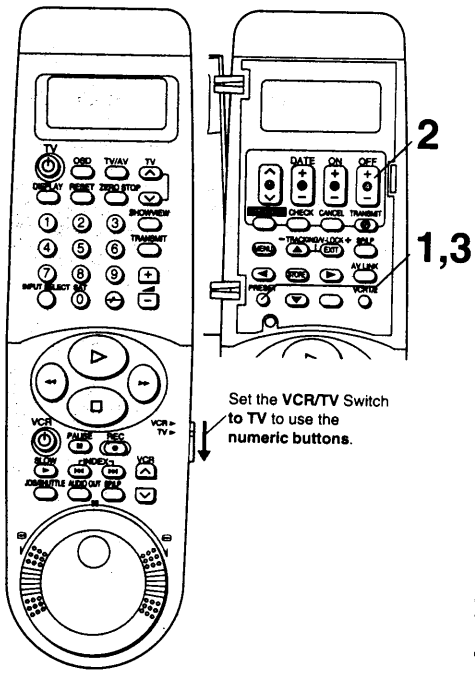


4 Press **STORE**, and then press **EXIT**.

STORE ➡ EXIT

Setting the Remote Controller for Operation of your TV

You can operate some TV manufacturers (see next page) using the supplied Remote Controller after this setting up.



Preparation
Turn on the TV.

Operations **Display Symbols**

1 Keep **PRESET** pressed for more than 2 seconds.

PRESET

2 Press **OFF** several times.

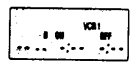
OFF

- When the number matches the manufacturer of your TV, the TV's power is turned off.

Read through the information on the following page as well.

3 Press **PRESET**.

PRESET



How to change the number
Each time the "+" side of **OFF** is pressed, the number is counted up by one as follows:

→1→2→3...30→

When the "−" side is pressed, the number is counted down by one in the reverse order to that indicated above.

Notes:
- Some TV models cannot be operated using this remote controller.
- Set **VCR/TV** switch to **TV**, otherwise you cannot select the programme position of the TV using the **numeric buttons** of this remote controller.

Number	Manufacturer
1–4	Panasonic
5	GRUNDIG, Blaupunkt, SIEMENS
6	PHILIPS, LOEWE, SAMSUNG, RADIOLA, DUAL, PYE, BUSH, GOODMANS, ELEMIS, CURTIS, SBR
7	SONY
8	METZ
9	FERGUSON, THOMSON, TELEFUNKEN, GOODMANS, SABA
10	FERGUSON, THOMSON, TELEFUNKEN, GOODMANS
11	FERGUSON, THOMSON, TELEFUNKEN, GOODMANS, SABA
12	FERGUSON, TELEFUNKEN, GOODMANS, SABA
13	TELEFUNKEN
14	FERGUSON, THOMSON, TELEFUNKEN, GOODMANS, SABA
15	FERGUSON, THOMSON, TELEFUNKEN, GOODMANS, SABA, NORDMENDE, BRANDT
16	TELEFUNKEN
17, 18	HITACHI
19	SIEMENS
20	SAMSUNG
21	ITT, NOKIA, SELECO
22	NOKIA, SALORA
23	MIVAR
24	TOSHIBA
25	SANYO
26	SHARP
27	JVC
28	MITSUBISHI
29, 30	HITACHI

When a TV manufacturer has the plural number
For example, When the number is 1, 2, 3 or 4 (Panasonic):
When the TV's power is turned off in step **2** on previous page, turn it back on and adjust the TV's volume using this remote controller. The volume can be adjusted if the number matches the TV manufacturer. If it is not possible to adjust the TV's volume, try setting the number (1 to 4) to match the TV manufacturer again until the volume can be adjusted.

Note:
FERGUSON, THOMSON, TELEFUNKEN, GOODMANS, SIEMENS, SAMSUNG, NOKIA, SABA and HITACHI have plural numbers. Although some models may operate with any of these numbers, other models may operate with only one number. Check each number in turn, and set the optimal number.

Memo

SECTION 2
ADJUSTMENT PROCEDURES

2-1. DISASSEMBLY METHOD

2-1-1. DISASSEMBLY FLOW CHART

This flow chart indicates disassembly steps of the cabinet parts and the circuit boards in order to find the necessary items for servicing.
When reassembling, perform the steps in the reverse order.

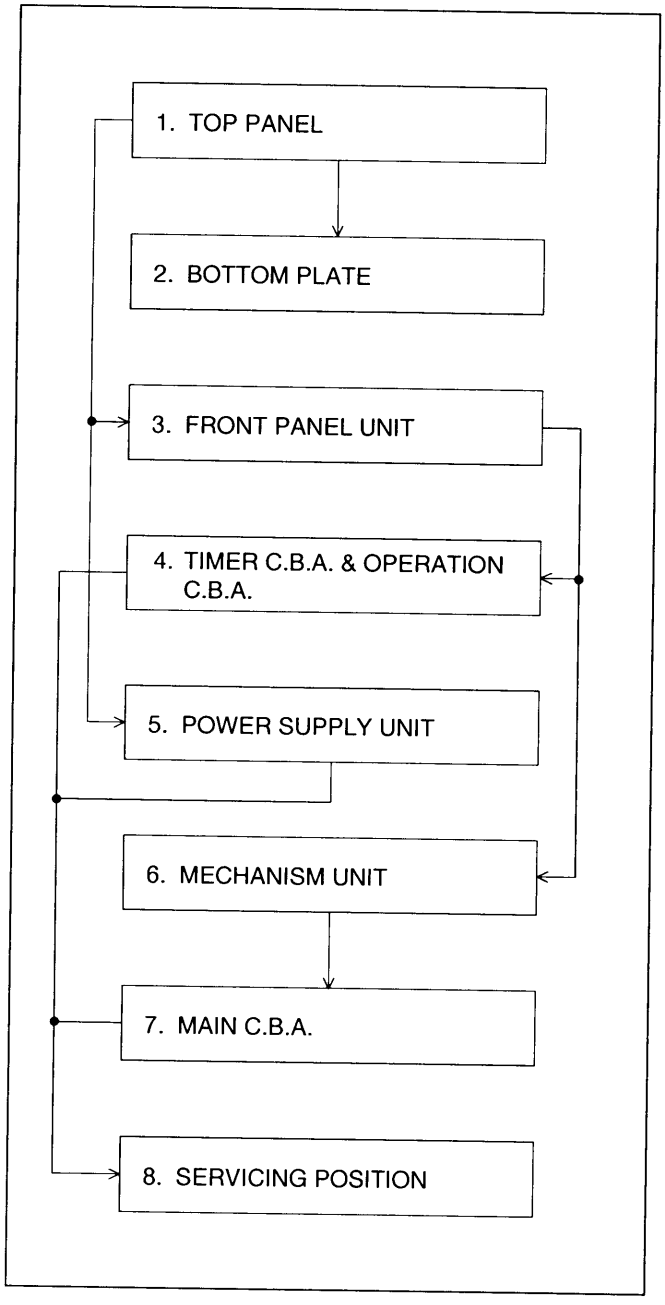


Fig. D1

2-1-2. DETAIL OF DISASSEMBLY METHOD

1. REMOVAL OF THE TOP PANEL

Remove ..... 4 Screws (A)

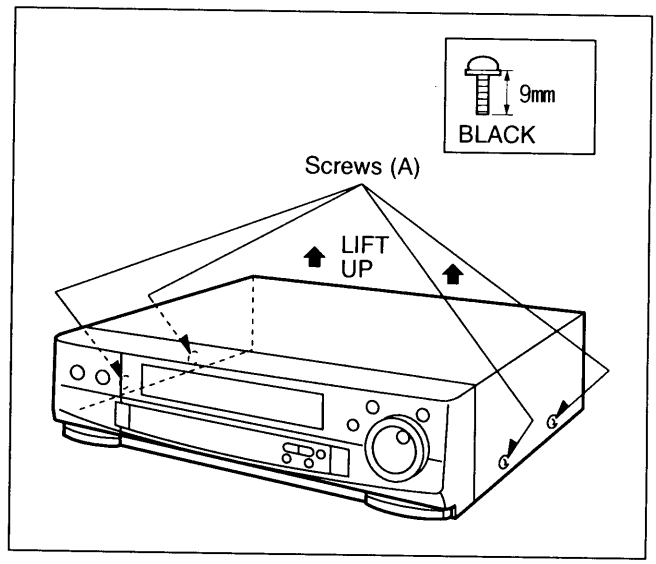


Fig. D2

2. REMOVAL OF THE BOTTOM PLATE

Unlock ..... 6 tabs (B)

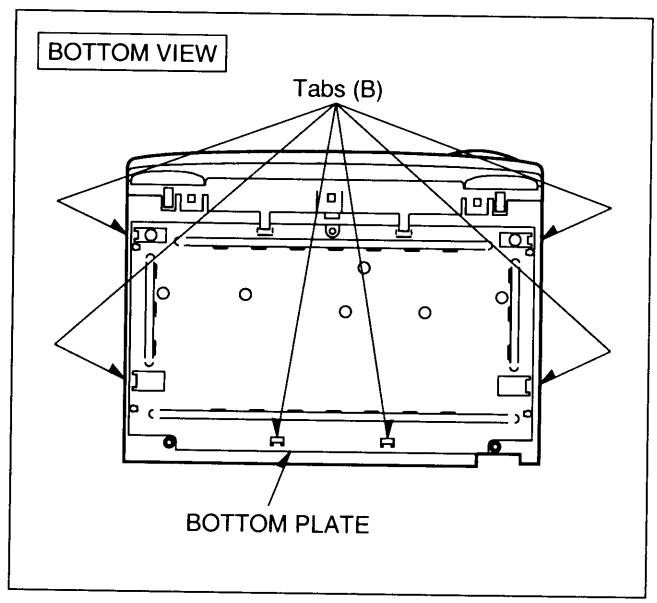


Fig. D3

3. REMOVAL OF THE FRONT PANEL UNIT

Pull out ..... JOG & SHUTTLE Knob
Unlock ..... 11 Tabs (C)

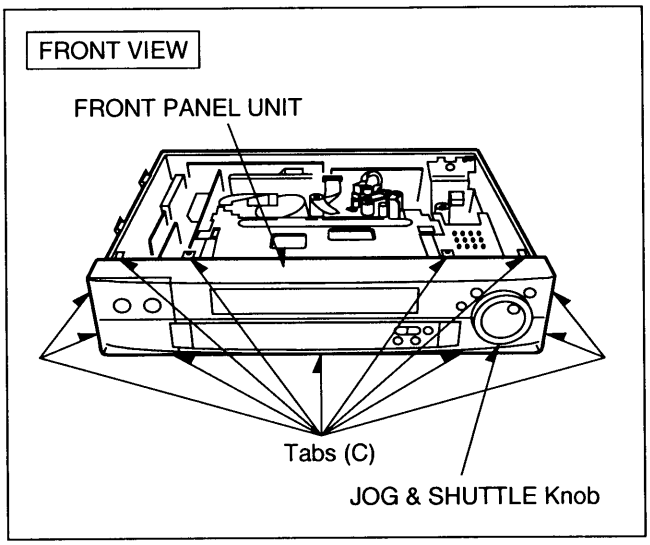


Fig. D4

4. REMOVAL OF THE TIMER C.B.A. & OPERATION C.B.A.

REMOVAL OF THE TIMER C.B.A.
Disconnect..... 2 Bridge connectors (D)
Unlock..... 5 Tabs (E)

REMOVAL OF THE VR C.B.A.
Disconnect..... 2 Bridge connectors (D)
Unlock..... 2 Tabs (F)

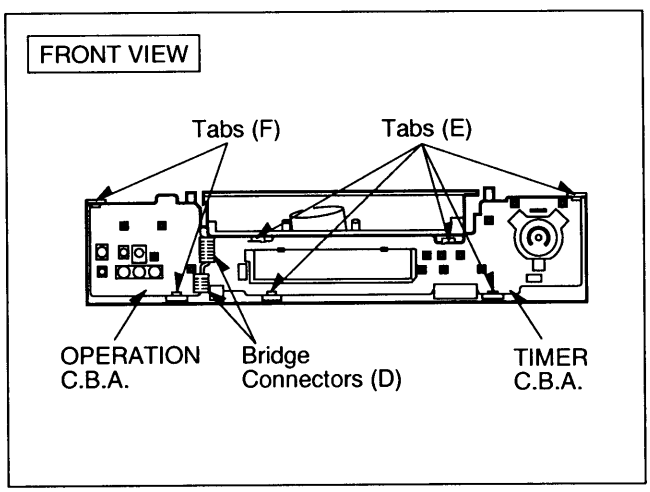


Fig. D5

5. REMOVAL OF THE POWER SUPPLY UNIT

Disconnect.....Bridge connector (G)
Unlock..... 5 Tabs (H)
Unlock..... 2 Tabs (I)

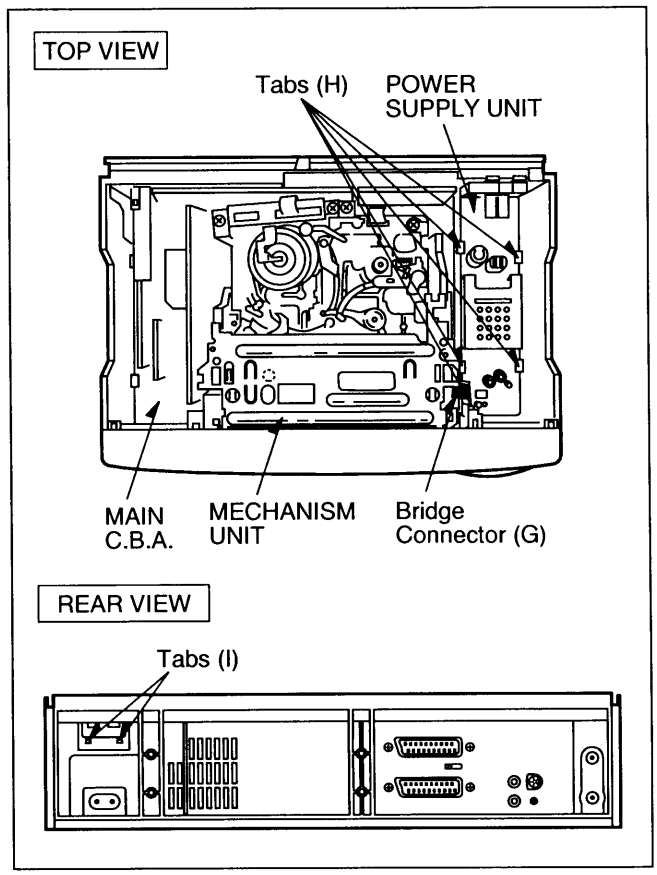


Fig. D6

CAUTIONS:
Please pay an attention to disconnect the connector (PS3006-P1102) which connected between Main C.B.A. and Power supply unit as shown below.

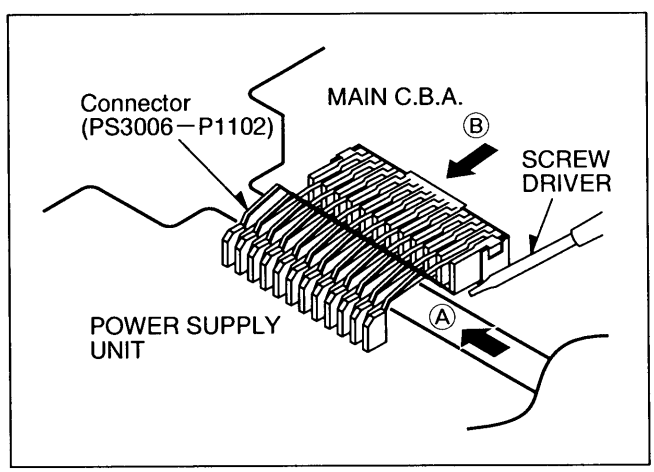


Fig. D7

As above drawing, disconnect the connector by SCREW DRIVER from the direction Ⓐ.
Do not disconnect from direction Ⓑ because it is possibility to damage the parts located by the connector.

6. REMOVAL OF THE MECHANISM UNIT

Remove ..... 3 Screws (J)
Remove ..... Screw (K)

7. REMOVAL OF THE MAIN C.B.A.

Disconnect ... Bridge connector (G) [Fig. D6]
Remove ..... 2 Screws (L)
Unlock..... 5 Tabs (M)

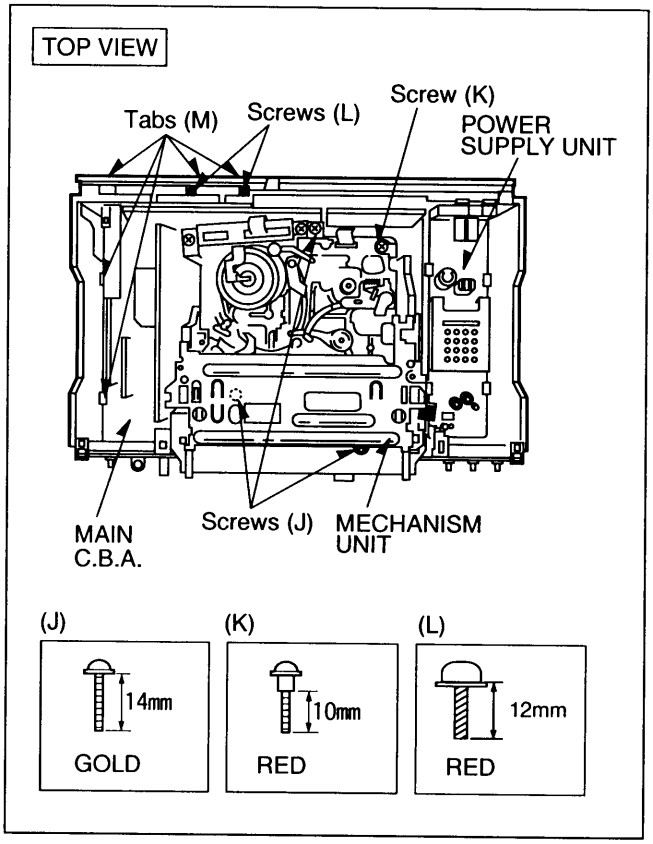


Fig. D8

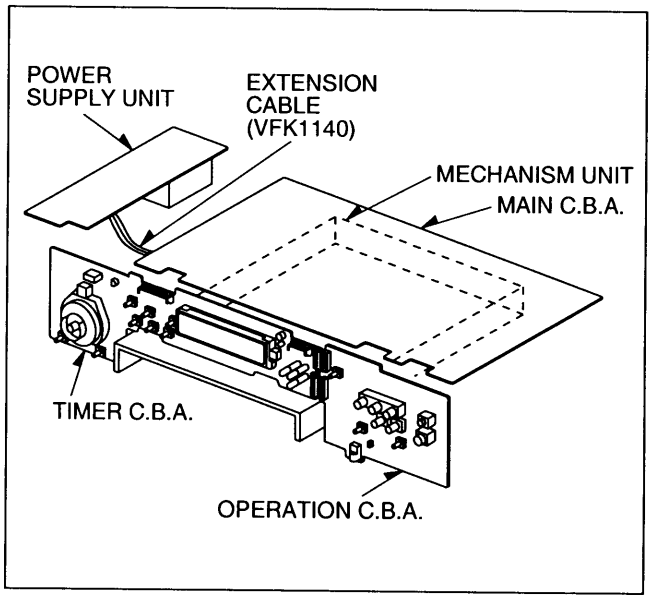


Fig. D9

2-2. MECHANICAL ADJUSTMENT PROCEDURES

The mechanical chassis of this model is the K Mechanical Chassis.
Therefore refer to the Service Manual for K Mechanical Chassis. (Order No. VRD9307M131)

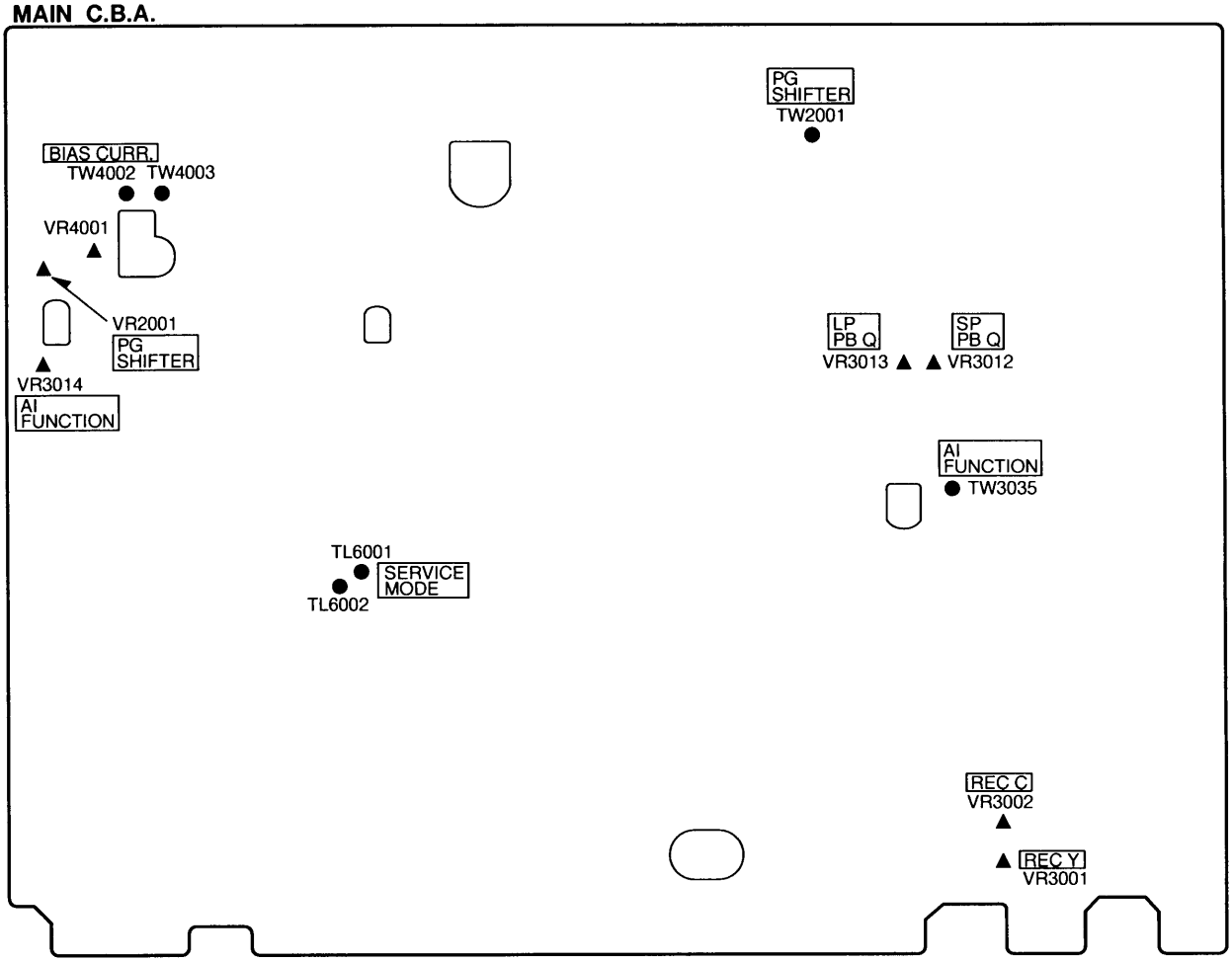
CAUTIONS:

To make a Adjustment Mode for Tape Interchangeability, the Auto Tracking must be turned off.

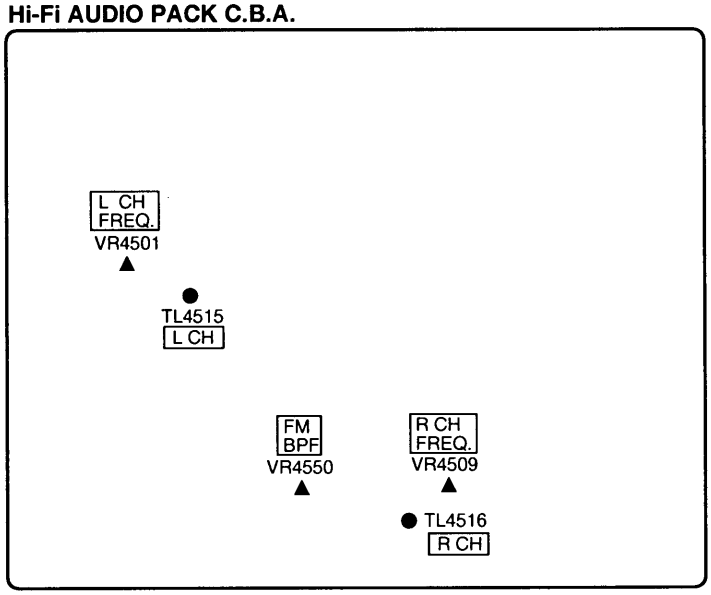
(1) Turn the Shuttle Ring to FF then press the EJECT button to set the Service Mode 2.

LOCATION OF TEST POINTS & CONTROLS

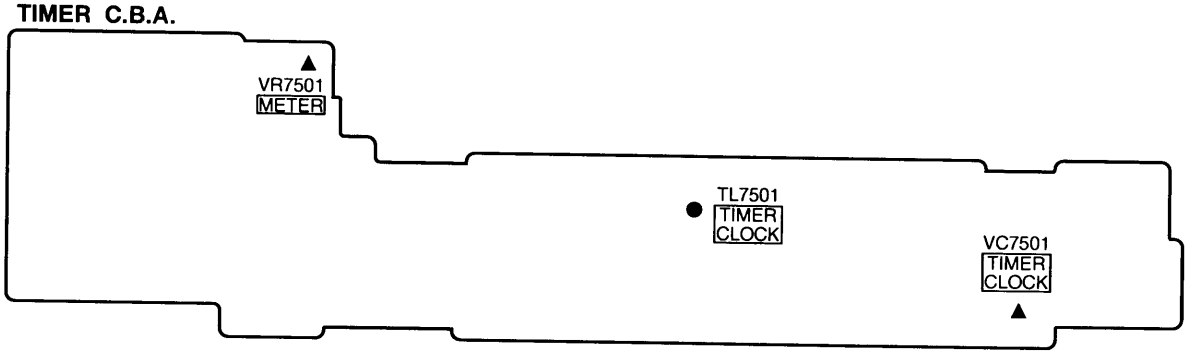
MAIN C.B.A.



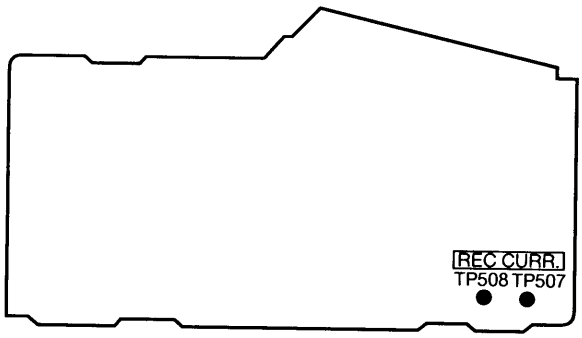
Hi-Fi AUDIO PACK C.B.A.



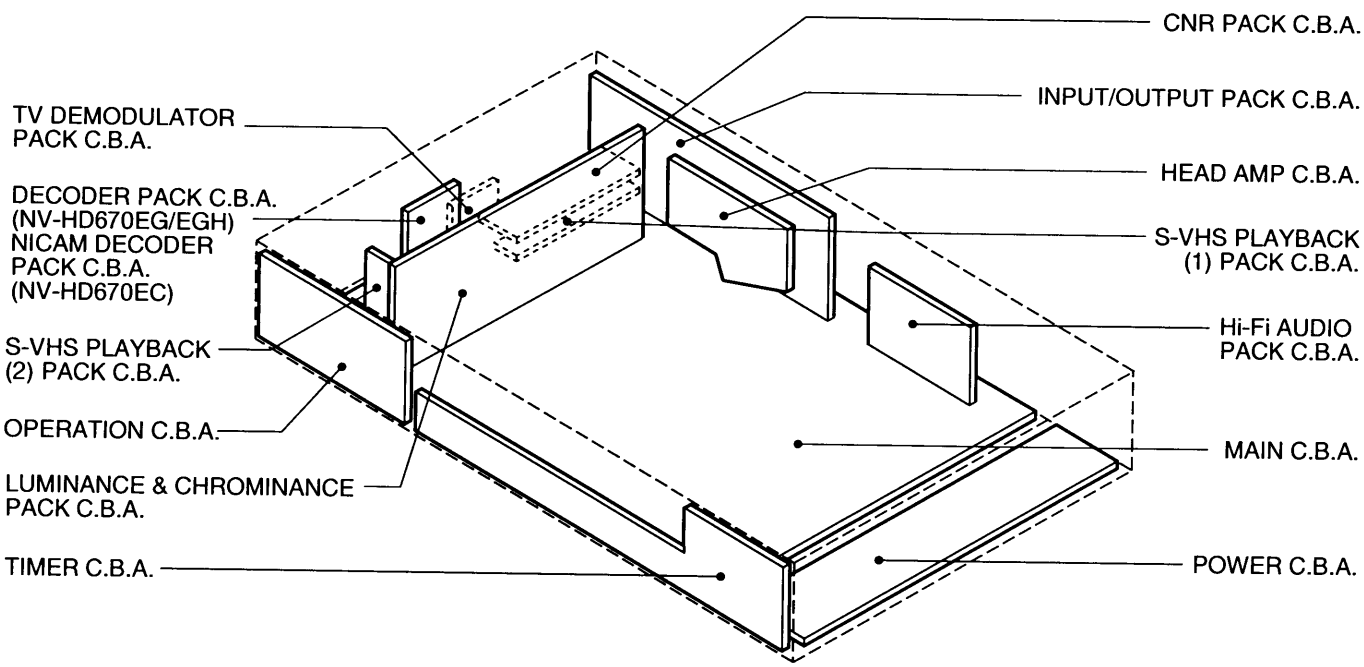
TIMER C.B.A.



HEAD AMP C.B.A.



CIRCUIT BOARD LAYOUT



2-3. ELECTRICAL ADJUSTMENT PROCEDURES

2-3-1. TEST EQUIPMENT

The following equipments are required for Electrical Adjustments.

1. Dual-Trace Oscilloscope • Voltage Range: 0.005~5 V/div • Frequency Range: DC~35 MHz • Probes: 10:1/1:1	3. Universal Counter	8. Monitor TV
	4. Digital Volt Meter (D.V.M.)	9. DC Power Supply
	5. Video Sweep generator	10. VHS Blank tape
2. Frequency Counter • Frequency Range: 0~10 MHz • Probes: 1:1	6. Sinewave Generator	11. VHS Alignment Tape • Part No.: VFJ8125H3F (PAL) • Part No.: VFM8080HQFP (NTSC)
	7. Video Pattern Generator	

2-3-2. VCR SETTING

When no indication in the procedure, set each selector as follows.

1. CVC SW: ON
2. TAPE SPEED: SP
3. CHANNEL: AV1/AV2/AV3 (Set to signal input terminal number)
4. TEST SIGNAL SW (REAR): OFF

2-3-3. ADJUSTMENTS

ITEM	TP	ADJ.	MODE	INPUT	TAPE	M. EQ.	SPEC.	REMARKS
PG SHIFTER ADJUSTMENT	TW2001/ VIDEO OUT	VR2001	PLAYBACK	—	ALIGNMENT TAPE	OSCILLO SCOPE	7.0+−0.5 (H) (See Fig. E1)	
RECORDING CURRENT ADJUSTMENT	TP507 (HOT) TP508 (CLD)	VR3001 (Y) VR3002 (C)	RECORDING	PAL COLOUR BAR	BLANK TAPE	OSCILLO SCOPE	Y: 140+−5 (mVp-p) C: 32+−2 (mVp-p) (See Fig. E2, E3)	1. Adjust the Luminance level until the peak level of V-SYNC is 140+−5mVp-p. 2. When adjusting the Chrominance level, supply +5V DC to PK3001-7 to eliminate Luminance component.
VIDEO FREQUENCY RESPONSE ADJUSTMENT	VIDEO OUT	VR3012 (SP) VR3013 (LP)	SP/LP PLAYBACK (SELF-REC)	VIDEO SWEEP	BLANK TAPE	OSCILLO SCOPE/ VIDEO SWEEP GENE.	SP: 0+−1 (dB) (90~110%) LP: 0+−1 (dB) (90~110%) (See Fig. E5)	1. Set the Video Sweep Signal. (See Fig. E4) 2. Set the CVC SW to OFF position.
AI FUNCTION ADJUSTMENT	TW3035	VR3014	PLAYBACK (SELF-REC)	PAL COLOUR BAR	BLANK TAPE	D.V.M.	1.6+−0.3 (V)	
BIAS CURRENT ADJUSTMENT	TW4002 (HOT) TW4003 (CLD)	VR4001	RECORDING	—	BLANK TAPE	D.V.M.	2.5+−0.1 (mVrms)	1. Connect the Audio Input and GND.
CARRIER FREQUENCY ADJUSTMENT	TL4515 (L) TL4516 (R)	VR4501 VR4509	RECORDING	—	BLANK TAPE	FREQ. COUNTER	L: 1400+−0.003 (KHz) R: 1800+−0.003 (KHz)	

ITEM	TP	ADJ.	MODE	INPUT	TAPE	M. EQ.	SPEC.	REMARKS
FM BPF ADJUSTMENT	TL4515 (L) TL4516 (R)	VR4550	PLAYBACK	SINEWAVE 1.608MHz 400mVp-p (PK4002-5)	ALIGNMENT TAPE	OSCILLO SCOPE/ SINEWAVE GENE.	TL4515 (L)=TL4516 (R)	1. Disconnect P501. 2. The GND lead of oscilloscope must be connected to GND on HIFI Audio C.B.A. to reduce the nise. 3. Supply the sinewave signal (1.608MHz/400mVp-p) to PK4002-5. 4. After this adjustment, connect P501.
TIMER REFERENCE CLOCK ADJUSTMENT	TL7501	VC7501	STOP	—	—	UNIV. COUNTER	7812.5+−0.015 (usec)	
LEVEL METER SENSITIVITY ADJUSTMENT	LEVEL METER ON THE FIP	VR7501	STOP	SINEWAVE 1 kHz/ −6 dB	—	—	0 dB INDICATOR ON THE AUDIO LEVEL METER JUST LIGHTS UP	1. Set the Audio Rec VR to Centre Fix position. 2. Select the STEREO Mode. (Both Left and Right indicators on the FIP are lit.) 3. Before recording the sinewave, set the sinewave generator until the audio outputs (L) and (R) are 400 mVrms.

2-3-4. FIGURES

Fig. E1

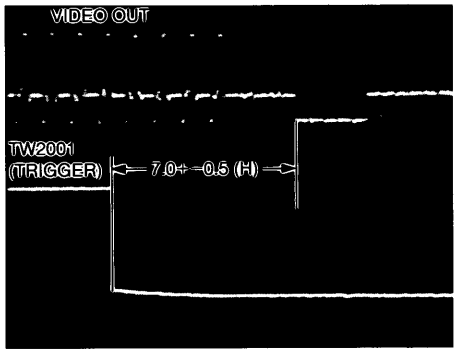


Fig. E2

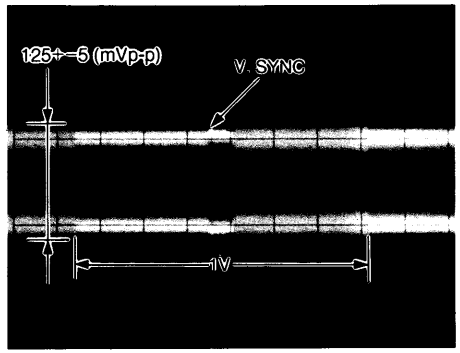


Fig. E3

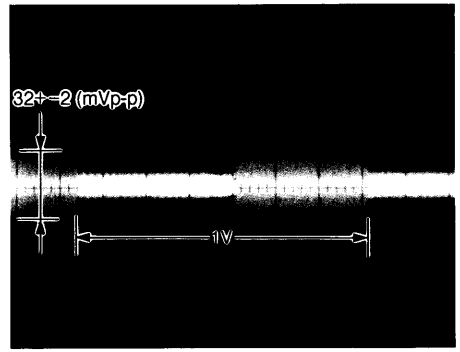
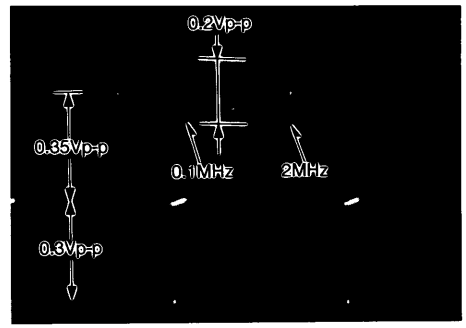
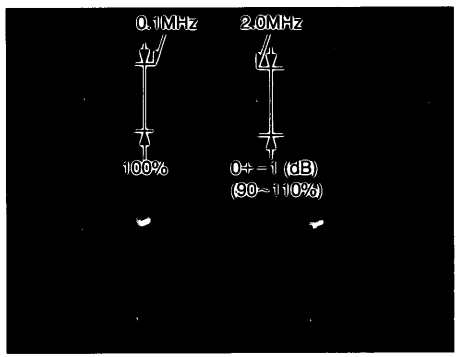


Fig. E4



CONDITION: BURST SIGNAL OFF
75 ohm TERMINATED

Fig. E5



SECTION 3
BLOCK DIAGRAMS & SCHEMATIC DIAGRAMS

3-1. ABBREVIATIONS

443NT [L]	4.43 NTSC Ⓛ
A. COMP	AUDIO COMPONENT SIGNAL
A. COMPO	AUDIO COMPONENT SIGNAL
A. D.P [L]	AUDIO DUBBING PAUSE Ⓛ
A. D/L [L]	AUDIO DUBBING PAUSE Ⓛ
A. DEF [S]	AUDIO DEFEAT
A. DEF [S] [L]	AUDIO DEFEAT
A. DUB P [L]	AUDIO DUBBING PAUSE Ⓛ
A. DUB [H]	AUDIO DUBBING Ⓗ
A. ERASE	AUDIO ERASE
A. H. SW	AUDIO HEAD SWITCHING PULSE
A. HEAD [R]	AUDIO HEAD (REC)
A. HEAD [W]	AUDIO HEAD (PLAY)
A. IN [L]	AUDIO INPUT (L)
A. IN [R]	AUDIO INPUT (R)
A. MUT [H]	AUDIO MUTE Ⓗ
A. MUTE [H]	AUDIO MUTE Ⓗ
A. OUT [L]	AUDIO OUTPUT (L)
A. OUT [R]	AUDIO OUTPUT (R)
A. RF OUT	AUDIO RF SIGNAL OUTPUT
A/VS/S. DATA	AV SW/SERIAL DATA
AC ONLINE	AC ONLINE
AC. O/EE. H	AC ONLINE/EE Ⓗ
AFC S C	AFC S CURVE
AFC [S]	AFC S CURVE
AFC. DEF	AFC DEFEAT
ARFC OUT	AUDIO RF SIGNAL OUTPUT
ART. V	ARTIFICIAL VERTICAL SYNC SIGNAL
ART. V. MM	ARTIFICIAL VERTICAL SYNC SIGNAL MONO MULTI
ART. V/H/N	ARTIFICIAL VERTICAL SYNC SIGNAL Ⓗ/NORMAL
AT. V/H/N	ARTIFICIAL VERTICAL SYNC SIGNAL
ATSW/TEST/NOR/SE	TEST/NORMAL/SERVICE
AUDIO IN [L]	AUDIO INPUT (L)
AUDIO IN [R]	AUDIO INPUT (R)
AUDIO OUT [L]	AUDIO OUTPUT (L)
AUDIO OUT [R]	AUDIO OUTPUT (R)
AUDIO SELECT [H]	AUDIO SELECT Ⓗ
AUDIO. L	AUDIO (L)
AUDIO. R	AUDIO (R)
AV CNT	AV CONTROL
AV CTL	AV CONTROL
AV CTL/S. CLK	AV CONTROL/SERIAL CLOCK
AV. C.M.	AV CONTROL MODE
AVCNT/METER. R	AV CONTROL/LEVEL METER (R)
AVSW/METER. L	AV SW/LEVEL METER (L)
B MODE. H	B MODE Ⓗ
B.G.P	BURST GATE PULSE
BACKUP 5V	BACK UP 5V
BAND. U.E.	BAND U
BANDVL. D	BAND VL
BI/MI [L]	BILINGUAL/MIX Ⓛ
BIL	BILINGUAL
BIL [L]	BILINGUAL Ⓛ
BIL. [H]	BILINGUAL Ⓗ
BIL/M1 [L]	BILINGUAL Ⓛ
BS CLOCK	BS CLOCK
BS DATA	BS DATA
BS LCH IN	BS L CHANNEL INPUT
BS MIX [H]	BS MIX Ⓗ
BS MON [H]	BS MONITOR Ⓗ
BS MONI [H]	BS MONITOR Ⓗ
BS RCH IN	BS R CHANNEL INPUT
BS VIDEO	BS VIDEO SIGNAL
BS VIDEO/BS1	BS VIDEO SIGNAL
BS [H]	BS Ⓗ
BS. LEVEL	BS LEVEL
BS. M [H]	BS MONITOR Ⓗ
BS/VTR [H]	BS/VTR Ⓗ
BUS CLK	BUS CLOCK
BUS LSN	BUS LISTEN
BUS TLK	BUS TALK
BUZZER	BUZZER
CAP EC	CAPSTAN TORQUE CONTROL
CAP M GND	CAPSTAN MOTOR GND
CAP. ET	CAPSTAN TORQUE CONTROL
CAP. FG1	CAPSTAN FG1 PULSE
CAP. FG2	CAPSTAN FG2 PULSE
CAS. SW	CASSETTE SW
CCN	PLAYBACK CONTROL SIGNAL (−)
CCP	PLAYBACK CONTROL SIGNAL (+)
CHM	CONTROL SIGNAL (+)
CHP	CONTROL SIGNAL (−)
CINEM [L]	CINEMA Ⓛ
CINEMA [L]	CINEMA Ⓛ
CINEMA/MIX	CINEMA/MIX
CKL	RATCH LOCK
CKS	SHIFT LOCK
CL	CLOCK
CLK	CLOCK
CLK (C.G)	CLOCK
CLOCK. IN	CLOCK INPUT
CLP	CLAMP
COL/B/W/NOR	COLOUR/BLACK & WHITE/NORMAL
COLOR [H]	COLOUR Ⓗ
CONV	CONVERTOR
CS	CHIP SELECT
CTL GND	CONTROL GND
CTL HEAD [+]	CONTROL HEAD (+)
CTL HEAD [−]	CONTROL HEAD (−)
CTL [+]	CONTROL HEAD (+)
CTL [−]	CONTROL HEAD (−)
CUE BIAS	CUE BIAS
CURRENT LIM	CURRENT LIMMITER
CYL ET	CYLINDER TORQUE CONTROL

CYL GND	CYLINDER GND	FULL. E. 12V	FULL ERASE 12V
D.F.M. REC [H]	DELAIED FM RECORDING Ⓗ	GND [A]	GND (ANALOG)
D. FM REC [L]	DELAIED FM RECORDING Ⓛ	GND [TU]	GND (TUNER)
D. GND	DIGITAL GND	GND/N. SW. 12V	GND/NON SW 12V
D. REC [H]	DELAYED RECORDING Ⓗ	H. SYNC	HORIZONTAL SYNC
D4/S. LED	D4/STILL LED	H. AMP. SW	HEAD AMP SW PULSE
D4/STILLED	D4/STILL LED	H. P <R>	HEAD PHONE (R)
DAC [CLK]	TUNER DAC (CLOCK)	H. P <L>	HEAD PHONE (L)
DAC/FSCS	TUNER DAC/FS CHIP SELECT	H. P GND	HEAD PHONE GND
DAREC [H]	DELAYED AUDIO RECORDING Ⓗ	H. P OUT [L]	HEAD PHONE OUTPUT (L)
DATA	DATA	H. P OUT [R]	HEAD PHONE OUTPUT (R)
DECODER [L]	DECODER (L)	H. SW	HEAD SW PULSE
DECODER [R]	DECODER (R)	HEAD PHONE [L]	HEAD PHONE (L)
DEW	DEW	HEAD PHONE [R]	HEAD PHONE (R)
DEW SNS	DEW SENSOR	HEAD SW	HEAD SW
DFMRE [H]	DELAYED FM AUDIO RECORDING Ⓗ	HEATER [+]	HEATER (+)
E. REC 5V	EXCEPT RECORDING 5V	HEATER [−]	HEATER (−)
EC	ERROR TORQUE CONTROL	HSS	HORIZONTAL SYNC SIGNAL
ECR	ERROR TORQUE CONTROL	HTR [+]	HEATER (+)
	REFERENCE VOLTAGE	HTR [−]	HEATER (−)
EDT TRIG [L]	EDIT TRIGGER Ⓛ	I RFE	REFERENCE CURRENT
EDIT [H]	EDIT Ⓗ	ICL	CONTROL AGC CIRCUIT
EE [H]	EE Ⓗ	IF	INTERMEDIATE FREQUENCY
EE [H]/INS [M]	EE Ⓗ/INSERT Ⓜ	IN SELA1	INPUT SELECT A1 POSITION
EE. VV. TR	EE/VV/TRICK PLAY	IN SELA2	INPUT SELECT A2 POSITION
EJECT. PO	EJECT POSITION	IN SELA3	INPUT SELECT A3 POSITION
EJECT/VDET	EJECT/REVERSE SLOW LOCK	INS L/R [L]	INSERT Lch/Rch Ⓛ
ENV. SEL	ENVELOPE SELECT	INS. [H]	INSERT Ⓗ
ENVE. OUT	ENVELOPE OUTPUT	INSEL A1	INPUT SELECT A1 POSITION
ENVE. SEL	ENVELOPE SELECT	INSEL A2	INPUT SELECT A2 POSITION
ENV SELECT	ENVELOPE SELECT	INSERT	INSERT
EP [H]	LP Ⓗ	INSERT [H]	INSERT Ⓗ
EP/LP [H]	LP Ⓗ	IO CS	INPUT/OUTPUT CHIP SELECT
EP/LP/SP	LP/SP	JOG1	JOG1
EP/SS [H]	LP/SLOW/STILL/STOP Ⓗ	JOG S3 LED/FOWRD	JOG LED/FORWARD LED
EPROMCS	EPROM CHIP SELECT	JOG/F. LED	JOG LED/FORWARD LED
EX. REC 5V	EXCEPT RECORDING 5V	JSB [H]	JSB Ⓗ
FF/REW [L]	FIRST FORWARD/REWIND Ⓛ	JST. CLCK	JUST CLOCK
FG1 IN	FG1 PULSE INPUT	JST. CLK	JUST CLOCK
FG2 IN	FG2 PULSE INPUT	JST. CLOCK	JUST CLOCK
FILTER ADJUSTMENT	FILTER ADJUSTMENT	L. OUT	Lch OUTPUT
FLY ERASE [H]	FLYING ERASE HEAD ON Ⓗ	L. CH [H]	Lch Ⓗ
FLY ON [H]	FLYING ERASE HEAD ON Ⓗ	L. CH [L]	Lch Ⓛ
FLY. E [H]	FLYING ERASE HEAD ON Ⓗ	LED (MAIN)	LED (MAIN)
FM MUT [H]	FM AUDIO MUTE Ⓗ	LED (STEREO)	LED (STEREO)
FM MUTE [H]	FM AUDIO MUTE Ⓗ	LED (SUB)	LED (SUB)
FM OUT [L]	FM OUTPUT (L)	LED CKL	LED SERIAL CLOCK
FM OUT [R]	FM OUTPUT (R)	LED CKS	LED SERIAL CLOCK
FM PACK OUT [L]	FM PACK OUTPUT (L)	LED DATA	LED SERIAL DATA
FM PACK OUT [R]	FM PACK OUTPUT (R)	LINE IN 1 [L]	LINE INPUT 1 (L)
FM/BS SEL [L]	FM/BS SELECT (L)	LINE IN 1 [R]	LINE INPUT 1 (R)
FM/BS SEL [R]	FM/BS SELECT (R)	LINE IN 2 [L]	LINE INPUT 2 (L)
FS. CLK	FS CLOCK	LINE IN 2 [R]	LINE INPUT 2 (R)
FUL. E [H]	FULL ERASE HEAD ON Ⓗ	LINE IN V	LINE INPUT VIDEO
FULL. E [H]	FULL ERASE HEAD ON Ⓗ	LINE IN [L]	LINE INPUT (L)

LINE IN [R]	LINE INPUT (R)
LINE OUT [L]	LINE OUTPUT (L)
LINE OUT [R]	LINE OUTPUT (R)
LP [H]	LP Ⓗ
LPTRI [L]	LP TRICK PLAY Ⓛ
Lch/A. DUB	Lch/AUDIO DUBBING
M GND	MOTOR GND
M REG	MOTOR REGULATOR
MAIN OUT	MAIN OUTPUT
MAIN [L]	MAIN Ⓛ
MAIN/MONO	MAIN/MONAURAL
MAX IN	MAXIMAM INPUT
MES [H]	MESECAM Ⓗ
MESE [H]	MESECAM Ⓗ
MESE [L]	MESECAM Ⓛ
METER 5V	LEVEL METER 5V
METER [L]	LEVEL METER (L)
METER [R]	LEVEL METER (R)
METER. L/AVS	LEVEL METER (L)
METER. R/AVC	LEVEL METER (R)
MI/BI [L]	MIX Ⓗ/BILIGUAL
MIC GND	MIC GND
MIC IN	MIC INPUT
MIC IN [L]	MIC INPUT (L)
MIC IN [R]	MIC INPUT (R)
MIC [H]	MIC Ⓗ
MIX [H]	MIX Ⓗ
MIX [H]/CINEMA [L]	MIX Ⓗ/CINEMA SOUND Ⓛ
MIX/CINE	MIX Ⓗ/CINEMA SOUND Ⓛ
MIX/CINEMA [L]	MIX Ⓗ/CINEMA SOUND Ⓛ
MN. H/M. L	MONAURAL Ⓗ/MAIN Ⓛ
MN. H/MAI. L	MONAURAL Ⓗ/MAIN Ⓛ
MN2/MES. L	MONAURAL 2/MESECAM Ⓛ
MODE SEL	AUDIO MODE SELECT
MODE SW	AUDIO MODE SW
MODE. S. IN	AUDIO MODE SELECT INPUT
MODE. S. OUT	AUDIO MODE SELECT OUTPUT
MONO [H]	MONAURAL Ⓗ
MONO [H]/MAIN [L]	MONAURAL Ⓗ/MAIN Ⓛ
MONO2 [L]	MONAURAL 2
MONO2/MESE [FM(L)]	MONAURAL 2/MESECAM (FM Ⓛ)
MOTOR GND	MOTOR GND
MUTE	MUTE
N. A. REC [L]	NORMAL AUDIO RECORDING
N. SW 12V	NON SW 12V
N. SW. 5. DET	NON SW 5V DETECT
NICAM	NICAM
NICAM [L]	NICAM Ⓛ
NOL [H]	PAL Ⓗ/4.43 NTSC Ⓜ/3.58 NTSC Ⓛ
NOR/SOFT [H]	NORMAL/SOFT TAPE PLAY Ⓗ
NORMAL [H]	NORMAL Ⓗ
NR BIAS	NR BIAS
NTSC [L]	NTSC Ⓛ
OCH	CONTROL AGC CIRCUIT
OUT	OUTPUT

P-OFF [H]	POWER OFF Ⓗ
P-OFF [L]	POWER OFF Ⓛ
P. FAIL	POWER FAILURE DETECT
P. OFF [H]	POWER OFF Ⓗ
P. OFF [L]	POWER OFF Ⓛ
PAL [H]	PAL Ⓗ
PAL [L]/NTSC [H]	PAL Ⓛ/NTSC Ⓗ
PB ADJ OUT	PLAYBACK ADJUST OUTPUT
PB OUT	PLAYBACK OUTPUT
PB. H	PLAYBACK Ⓗ
PFG	PG/FG
PHOTSN +B	PHOTO SENSOR +B
PICT. CNT	PICTURE CONTROL
PLAY LED/RVS LED	PLAY LED/REVERSE LED
PLAY. PO	PLAY POSITION
PLAY/R. LED	PLAY LED/REVERSE LED
PLY/DEW	PLAY/DEW Ⓗ
POWER OFF [L]	POWER OFF Ⓛ
PREROLL [H]	PREROLL Ⓗ
PWRFAIL	POWER FAILURE DETECT
R. CH [H]	Rch Ⓗ
R. CH [L]	Rch Ⓛ
R. ST	RESET
R/S/F	REVERSE Ⓗ/STOP Ⓜ/FORWARD Ⓛ
RCH [H]	Rch Ⓗ
REC 12V	RECORDING 12V
REC CHROMA	RECORDING CHROMINANCE SIGNAL
REC H	RECORDING Ⓗ
REC IN	RECORDING INPUT
REC OUT [L]	RECORDING OUTPUT Ⓛ
REC START	RECORDING START
REC VR [C]	RECORDING VOLUME (COMMON)
REC VR [L]	RECORDING VOLUME (L)
REC VR [R]	RECORDING VOLUME (R)
REC Y	RECORDING LUMINANCE SIGNAL
REC [H]	RECORDING Ⓗ
REC. C	RECORDING CHROMINANCE SIGNAL
REC. Y	RECORDING LUMINANCE SIGNAL
REC/EE CTL	RECORDING/EE CONTROL
REEL-T	REEL PULSE (TAKE-UP)
REEL-S	REEL PULSE (SUPPLY)
REGULATOR FILTER	REGULATOR FILTER
RESET	RESET
REV M F/R	REVIEW MOTOR FORWARD/REVERSE
REV M V1	REVIEW MOTOR V1
REV M V2	REVIEW MOTOR V2
REV MOTOR F/R	REVIEW MOTOR FORWARD/REVERSE
REV MOTOR V1	REVIEW MOTOR V1
REV MOTOR V2	REVIEW MOTOR V2
REV MOTOR [+]	REVIEW MOTOR (+)
REV MOTOR [−]	REVIEW MOTOR (−)
REV. M. GND	REVIEW MOTOR GND
RF. CHROMA	RF CHROMINANCE SIGNAL

RF OUT	RF OUTPUT
RF Y	RF LUMINANCE SIGNAL
RF. Y. IN	RF LUMINANCE SIGNAL INPUT
RF. Y. OUT	RF LUMINANCE SIGNAL OUTPUT
ROTAR. SW	ROTARY SW
ROTARY	ROTARY SW
RST	RESET
RST [L]	RESET Ⓛ
Rch/INST	Rch/INSERT
S IN	SERIAL DATA INPUT
S OUT	SERIAL DATA OUTPUT
S-PHOTO	SUPPLY PHOTO TRANSISTOR
S-RL. PLS	SUPPLY REEL PULSE
S. CLK	SERIAL CLOCK
S. CLK/AV	SERIAL CLOCK/AV
S. DATA	SERIAL DATA
S. DATA/A	SERIAL DATA
S. PHOTO	SUPPLY PHOTO TRANSISTOR
S. TAB [L]	SAFETY TAB SW ON Ⓛ
S/P/N	SECAM/PAL/NTSC
SC IN	SERIAL CLOCK INPUT
SC OUT	SERIAL CLOCK OUTPUT
SCK SELECT	SERIAL CLOCK SELECT
SEL OUT [L]	SELECT OUTPUT (L)
SEL OUT [R]	SELECT OUTPUT (R)
SHUTTLE 1	SHUTTLE 1
SIF	SOUND INTERMEDIATE FREQUENCY
SLMUT [H]	INPUT SELECT MUTE Ⓗ
SLNID [+]	SOLENOID (+)
SLNID [−]	SOLENOID (−)
SLW TR. MM	SLOW TRACKING MONO MULTI
SLW TR. REF	SLOW TRACKING REFERENCE VOLTAGE
SNS. GND	SENSOR GND
SOFT [H]	SOFT TAPE PLAY Ⓗ
SOFT [H]/NORMAL	SOFT TAPE PLAY Ⓗ/NORMAL Ⓗ
SOLENOID ON [L]	SOLENOID ON Ⓛ
SP [H]	SP Ⓗ
SP/L/SLP	SP/LP
SSS [L]	SLOW/STILL/STOP
STEREO LED	STEREO LED
STEREO [H]	STEREO Ⓗ
STEREO [L]	STEREO Ⓛ
STOP. PO	STOP POSITION
STOP/5V	STOP POSITION/5V
STOP1/TAPE SEL	STOP1 POSITION/TAPE SELECT
STOP1/PAL:ST	STOP1 POSITION/PAL
STOP2. PO	STOP 2 POSITION
STOP2/S-TAB	STOP 2 POSITION/SAFETY TAB SW
STREO [H]	STEREO Ⓗ
SUB BIAS	SUB BIAS
SUB. SW	SUB SW
SVHS CAS [L]	S-VHS CASSETTE Ⓛ
SW. 5. DET	SW 5V DETECT
SYNC [L]	SYNC Ⓛ
SYSCON 5V	SYSTEM CONTROL 5V
SYSTEM	SYSTEM SW
T-PHOTO	TAKE-UP PHOTO TRANSISTOR
T-RL. PLS	TAKE-UP REEL PULSE
T. BUSCLK	TIMER BUS CLOCK
T. BUSLSN	TIMER BUS LISTEN
T. BUSTLK	TIMER BUS TALK
T. END [L]	TAPE END Ⓛ
T. PHOTO	TAKE-UP PHOTO TRANSISTOR
TAPE END [L]	TAPE END Ⓛ
TAPE END [L]/CAM	TAPE END Ⓛ/CAMERA PAUSE
TEST	TEST MODE
TPZ	TRAPEZOIDAL WAVE CIRCUIT
TRIC [L]	TRIC PLAY Ⓛ
TRICK [L]	TRIC PLAY Ⓛ
TRK. ENV	AUTO TRACKING ENVELOPE DETECT
TU. AUDIO	TUNER AUDIO
TU. GND	TUNER GND
TU. V. IN	TUNER VIDEO SIGNAL INPUT
TU. VIDEO	TUNER VIDEO
TUN NOR IN	TUNER NORMAL INPUT
TUN R	TUNER AUDIO (R)
TUN. AUDIO IN	TUNER AUDIO INPUT
TUNER 12V	TUNER 12V
TUNER L	TUNER AUDIO (L)
TUNER V IN	TUNER VIDEO SIGNAL INPUT
TUNER [L]	TUNER AUDIO (L)
TUNER [N]	TUNER AUDIO (NORMAL)
TUNER [R]	TUNER AUDIO (R)
TUNER. 12	TUNER 12V
TUOFF [H]	TUNER OFF Ⓗ
TV. AUDIO	TV AUDIO
TV/VTR	TV/VTR
TXTON [L]	TEXT ON Ⓛ
U. REG45V	UNREGULATOR 45V
UNREG	UNREGULATOR
UNREG19V	UNREGULATOR 19V
V. REF	REFERENCE VOLTAGE
V. EE [H]	VIDEO EE Ⓗ
V. EE [L]	VIDEO EE Ⓛ
VCO REF	REFERENCE OSCILLATER
VD. IN	VIDEO SIGNAL INPUT
VD. OUT	VIDEO SIGNAL OUTPUT
VIDEO EE [L]	VIDEO EE Ⓛ
VIDEO IN	VIDEO SIGNAL INPUT
VIDEO OUT	VIDEO SIGNAL OUTPUT
VM	MOTOR VOLTAGE
VM DOWN [L]	MOTOR VOLTAGE DOWN Ⓛ
VSS	VERTICAL SYNC SIGNAL
VTR [H]	VTR Ⓗ
VTR. 12V	VTR 12V
X IN	OSCILLATOR INPUT
X OUT	OSCILLATOR OUTPUT

INPUT/OUTPUT CHART FOR IC6001

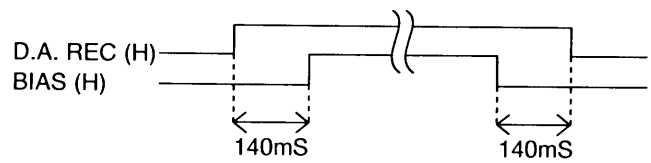
<table>
<tr><th>Pin Number</th><th>Input/Output</th><th>Port Name</th><th>Function</th></tr>
<tr><td>1</td><td>O</td><td>2H (H)</td><td>This port is high in SP mode.</td></tr>
<tr><td>2</td><td>O</td><td>FM MUTE (H)</td><td>This port is high during special playback (CUE, REV, SLOW, STILL) mode.</td></tr>
<tr><td>3</td><td>O</td><td>AUDIO MUTE (H)</td><td>This port is high during special playback (CUE, REV, SLOW, STILL) mode.</td></tr>
<tr><td>4</td><td>O</td><td>EDIT (H)</td><td>This port is high during edit.</td></tr>
<tr><td>5</td><td>O</td><td>VIDEO EE (L)</td><td>This port is low during EE mode.</td></tr>
<tr><td>6</td><td>O</td><td>VA</td><td rowspan="2">Input signal select.<table><tr><th>VCR IN</th><th>VA</th><th>VB</th></tr><tr><td>TUNER</td><td>L</td><td>L</td></tr><tr><td>AV1</td><td>H</td><td>L</td></tr><tr><td>AV2</td><td>L</td><td>H</td></tr><tr><td>AV3</td><td>H</td><td>H</td></tr></table></td></tr>
<tr><td>7</td><td>O</td><td>VB</td></tr>
<tr><td>8</td><td>O</td><td>V. CHANGE (H)</td><td>This port is high while the loading motor torque is increased in FF and REW modes.</td></tr>
<tr><td>9</td><td>O</td><td>LM LIMIT (H)</td><td>Loading motor torque limiter output.</td></tr>
<tr><td>10</td><td>O</td><td>FF/REW (L)</td><td>This port is low during FF and REW modes.</td></tr>
<tr><td>11</td><td>O</td><td>UNLOADING (H)</td><td>This port is high while the mechanism is unloaded.</td></tr>
<tr><td>12</td><td>O</td><td>LOADING (H)</td><td>This port is high while the mechanism is loaded.</td></tr>
<tr><td>13</td><td>O</td><td>D.A. REC (H)</td><td rowspan="2">Normal audio recording control.
  </td></tr>
<tr><td>14</td><td>O</td><td>BIAS (H)</td></tr>
<tr><td>15</td><td>O</td><td>RGB</td><td>BLANKING signal output select.
RGB SW OFF: HIGH
RGB SW ON : LOW</td></tr>
<tr><td>16</td><td>I</td><td>SHORT CHECK (H)</td><td>DC voltage (BIAS (H)) detection.
● When the low voltage is detected in recording mode, the VCR is turned off.
● When the high voltage is detected in except recording mode, the VCR is turned off.</td></tr>
<tr><td>17</td><td>I</td><td>S-VHS PB (H)</td><td>This port is high during S-VHS playback.</td></tr>
<tr><td>18</td><td>O</td><td>PB AI2 (H)</td><td>AI playback control.</td></tr>
<tr><td>19</td><td>O</td><td>PB AI1 (H)</td><td>AI playback control.</td></tr>
</table>

Fig. MP1

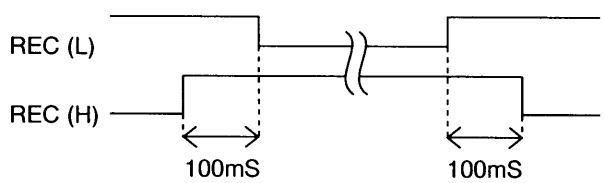
Pin Number	Input/Output	Port Name	Function
20	I	S-TAB (L)	This port is low while the cassette tape with safety tab is inserted.
21	I	ABS NORM IN	HIFI audio mode detection. ● When the low voltage is detected, the audio output is compulsory normal audio mode.
22	I	NC	Not used (Low setting)
23	I	CPB	AV2 PB (H) setting detection for I/O circuit control. ● This port is high when AV2 PB (H) is set to high. ● This port is low when AV2 PB (H) is set to low.
24	I	REC AI (L)	AI mode selection. AI PB ONLY : HIGH AI PB AND REC : LOW
25	I	RESET (L)	This port is low while IC6001 is reset.
26	I	MODE SEL	Active mode selection for microprocessor.
27	I	NC	Not used (Low setting)
28	I	B	Initial setting for 21 PIN Skirt Jack. B MODEL : HIGH EXCEPT B MODEL: LOW
29	O	LINE (L)	Input signal control for HIFI audio circuit. MIC/TUNER: HIGH LINE : LOW
30	O	REC (L)	DC voltage control for recording mode. 
31	O	REC (H)	
32	O	A. DUB (H)	This port is high during audio dubbing mode.
33	O	SAT (H)	This port is high during VCR receive the SAT signal.
34	O	TV	Output signal control for AV1. SIGNAL FROM VCR: HIGH SIGNAL FROM AV2 : LOW
35	O	SYSTEM 4	Refer to Fig. MP. 7
36	O	SYSTEM 5	Refer to Fig. MP. 7
37	I	DIGITAL 5V	VDD
38	O	12MHz OUT	Oscillator output.
39	I	12MHz IN	Oscillator input.

Fig. MP2

<table>
<tr><th>Pin Number</th><th>Input/Output</th><th>Port Name</th><th>Function</th></tr>
<tr><td>40</td><td>O</td><td>32KHz OUT</td><td>Oscillator output.</td></tr>
<tr><td>41</td><td>I</td><td>32KHz IN</td><td>Oscillator input.</td></tr>
<tr><td>42</td><td>I</td><td>DIGITAL GND</td><td>GND</td></tr>
<tr><td>43</td><td>O</td><td>FULL ERASE (H)</td><td>Full erase on/off control.
ON : HIGH
OFF: LOW</td></tr>
<tr><td>44</td><td>O</td><td>D. REC (H)</td><td>Video signal recording on/off control.</td></tr>
<tr><td>45</td><td>O</td><td>D. FM. REC (H)</td><td>HIFI audio signal recording on/off control.</td></tr>
<tr><td>46</td><td>O</td><td>C. EMPHASYS (H)</td><td>This port supplies high signal during a certain time (refer to following chart) from starting the recording to control the HIFI audio recording current.
<table>
<tr><th>TAPE SPEED</th><th>OUTPUT</th></tr>
<tr><td>NTSC 2H</td><td>6 sec</td></tr>
<tr><td>NTSC 4H</td><td>12 sec</td></tr>
<tr><td>NTSC 6H</td><td>18 sec</td></tr>
<tr><td>PAL 3H</td><td>9 sec</td></tr>
<tr><td>PAL 6H</td><td>18 sec</td></tr>
</table></td></tr>
<tr><td>47</td><td>O</td><td>REC CUR 1</td><td rowspan="3">AI REC current switching signal output.</td></tr>
<tr><td>48</td><td>O</td><td>REC CUR 2</td></tr>
<tr><td>49</td><td>O</td><td>REC CUR 3</td></tr>
<tr><td>50</td><td>O</td><td>A. H. SW</td><td>HIFI audio head switching signal output.</td></tr>
<tr><td>51</td><td>O</td><td>S. DATA OUT</td><td>Serial data output.</td></tr>
<tr><td>52</td><td>I</td><td>S. DATA IN</td><td>Serial data input.</td></tr>
<tr><td>53</td><td>O</td><td>S. CLOCK</td><td>Serial clock output.</td></tr>
<tr><td>54</td><td>O</td><td>5P S. DATA OUT</td><td>EDIT 5P serial data output.</td></tr>
<tr><td>55</td><td>I</td><td>5P S. DATA IN</td><td>EDIT 5P serial data input.</td></tr>
<tr><td>56</td><td>O</td><td>5P S. CLOCK</td><td>EDIT 5P serial clock output.</td></tr>
<tr><td>57</td><td>O</td><td>CAP R/S/F</td><td>Capstan rotation direction control.
REVERSE: HIGH
STOP : MIDDLE
FOWARD : LOW</td></tr>
<tr><td>58</td><td>O</td><td>CURRENT LIMIT</td><td>Capstan motor current limitter output.</td></tr>
<tr><td>59</td><td>O</td><td>ENV2</td><td>AI PB control signal output.</td></tr>
</table>

Fig. MP3

<table>
<tr><th>Pin Number</th><th>Input/Output</th><th>Port Name</th><th>Function</th></tr>
<tr><td>60</td><td>O</td><td>PIC VR OUT</td><td>This port supplies the voltage which depends on picture VR setting.</td></tr>
<tr><td>61</td><td>O</td><td>ART V/H/N</td><td>This port supplies artificial vertical sync signal to stabilize the picture in special playback mode.</td></tr>
<tr><td>62</td><td>O</td><td>VIDEO H. SW</td><td>Video head switching signal output.</td></tr>
<tr><td>63</td><td>O</td><td>ROTARY SW</td><td>Rotary switching signal output.</td></tr>
<tr><td>64</td><td>O</td><td>H. AMP. SW</td><td>Head amp switching signal output.</td></tr>
<tr><td>65</td><td>I</td><td>ENVE SELECT</td><td>This port receives the playback envelope signal level to select the video head in special playback mode.</td></tr>
<tr><td>66</td><td>I</td><td>MIC (H)</td><td>This port is high during the mic is connected.</td></tr>
<tr><td>94</td><td>I</td><td>T- PHOTO</td><td>This port receives the signal when take-up photo sensor detects the tape begining.</td></tr>
<tr><td>95</td><td>I</td><td>S-PHOTO</td><td>This port receives the signal when supply photo sensor detects the tape end.</td></tr>
<tr><td>96</td><td>I</td><td>NORMAL/
SERVICE/TEST</td><td>NORMAL/SERVICE/TEST mode selection.<table><tr><th>INPUT VOLTAGE</th><th>MODE</th></tr><tr><td>MORE THAN 4.0V</td><td>NORMAL</td></tr><tr><td>2.5V~4.0V</td><td>SERVICE</td></tr><tr><td>LESS THAN 2.5V</td><td>TEST</td></tr></table></td></tr>
<tr><td>97</td><td>I</td><td>SYSTEM
SELECT</td><td>System mode selection for auto setup.<table><tr><th>INPUT VOLTAGE</th><th>MODE</th></tr><tr><td>MORE THAN 3.0V</td><td>MODE 4</td></tr><tr><td>2.0V~3.0V</td><td>MODE 2</td></tr><tr><td>LESS THAN 2.0V</td><td>MODE 1</td></tr></table></td></tr>
<tr><td>98</td><td>I</td><td>STEREO/BIL</td><td>Audio mode detection for display on the OSD.<table><tr><th>INPUT VOLTAGE</th><th>DISPLAY</th></tr><tr><td>MORE THAN 4.2V</td><td>NO DISPLAY</td></tr><tr><td>3.0V~4.2V</td><td>MONO 1</td></tr><tr><td>2.0V~3.0V</td><td>BILINGUAL</td></tr><tr><td>0.8V~2.0V</td><td>MONO 1+2</td></tr><tr><td>LESS THAN 0.8V</td><td>STEREO</td></tr></table></td></tr>
<tr><td>99</td><td>I</td><td>DEW SNS</td><td>This port is more than 1.36V during detecting the dew formation.</td></tr>
<tr><td>100</td><td>I</td><td>ATIC SEL</td><td>Head amp IC setting for playback envelope detection.<table><tr><th>INPUT VOLTAGE</th><th>IC</th></tr><tr><td>MORE THAN 3.0V</td><td>TEA5705</td></tr><tr><td>2.0V~3.0V</td><td>AN3336</td></tr><tr><td>LESS THAN 2.0V</td><td>AN3360</td></tr></table></td></tr>
<tr><td>101</td><td>I</td><td>PIC VR IN</td><td>This port receives the voltage which depends on picture VR setting.</td></tr>
<tr><td>102</td><td>I</td><td>CHROMA IN</td><td>AI PB Chrominance level adjustment input.</td></tr>
</table>

Fig. MP4

<table>
<tr><th>Pin Number</th><th>Input/Output</th><th>Port Name</th><th>Function</th></tr>
<tr><td>103</td><td>I</td><td>SLTR MM</td><td>Slowtracking adjustment input.</td></tr>
<tr><td>104</td><td>I</td><td>AV MODE SEL</td><td>TV/VTR switch setting.
<table><tr><td>INPUT VOLTAGE</td><td>SWITCH</td></tr><tr><td>MORE THAN 3.0V</td><td>TV/VTR</td></tr><tr><td>2.0V~3.0V</td><td>NO SW</td></tr><tr><td>LESS THAN 2.0V</td><td>AV LINK</td></tr></table></td></tr>
<tr><td>105</td><td>I</td><td>TRACKING ENVE</td><td>Playback envelope input for tracking adjustment.</td></tr>
<tr><td>106</td><td>I/O</td><td>EDIT TRIG</td><td>Trigger signal in/output for synchronized editing.</td></tr>
<tr><td>107</td><td>I/O</td><td>PB/TUN/LINE</td><td>Normal audio switching control.
NORMAL AUDIO PB (INCLUDING INSERT): HIGH
LINE IN EE OR A. DUB MODE : LOW
TUNER IN EE OR A. DUB MODE : Z</td></tr>
<tr><td>108</td><td>O</td><td>T SNS LED (L)</td><td>Sensor LED drive signal output.
● When this port supplies the low signal, the sensor LED is lit.</td></tr>
<tr><td>109</td><td>I/O</td><td>PREROLL</td><td>Preroll signal in/output for synchronized editing.</td></tr>
<tr><td>110</td><td>O</td><td>SYSTEM 2</td><td>Refer to Fig. MP. 7</td></tr>
<tr><td>111</td><td>O</td><td>SYSTEM 1</td><td>Refer to Fig. MP. 7</td></tr>
<tr><td>112</td><td>I/O</td><td>HIFI/MIX/NORM</td><td rowspan="2">Audio output mode control.
<table><tr><td></td><td colspan="4">MODE</td></tr><tr><td></td><td>STEREO</td><td>L CH</td><td>R CH</td><td>NORMAL</td></tr><tr><td>HIFI/MIX/NORM</td><td>H</td><td>H</td><td>H</td><td>L</td></tr><tr><td>L CH/R CH/STEREO</td><td>L</td><td>H</td><td>Z</td><td>L</td></tr></table>Z: HIGH IMPEDANCE</td></tr>
<tr><td>113</td><td>O</td><td>L CH/R CH/ STEREO</td></tr>
<tr><td>114</td><td>I</td><td>DIGITAL 5V</td><td>VDD</td></tr>
<tr><td>115</td><td>I</td><td>POSITION SW1</td><td rowspan="3"><table><tr><th>P. SW 3</th><th>P. SW 2</th><th>P. SW 1</th><th>Position (Mode) Name</th></tr><tr><td>O</td><td>O</td><td>O</td><td>EJECT</td></tr><tr><td>O</td><td>O</td><td>I</td><td>CASSETTE DOWN</td></tr><tr><td>O</td><td>I</td><td>O</td><td>REV, REV SLOW</td></tr><tr><td>O</td><td>I</td><td>I</td><td>MID (LOADING/UNLOADING)</td></tr><tr><td>I</td><td>O</td><td>O</td><td>PLAY/REC, STILL/PAUSE, CUE, FWD SLOW STOP3 *1</td></tr><tr><td>I</td><td>O</td><td>I</td><td>STOP</td></tr><tr><td>I</td><td>I</td><td>O</td><td>FF/REW</td></tr><tr><td>I</td><td>I</td><td>I</td><td>INTERMEDIATE</td></tr></table>(*1) The Pinch Roller is on the capstan motor shaft.</td></tr>
<tr><td>116</td><td>I</td><td>POSITION SW2</td></tr>
<tr><td>117</td><td>I</td><td>POSITION SW3</td></tr>
<tr><td>118</td><td>O</td><td>AVPBL</td><td>AV1 PB (H) output control.
● This port is high when AV1 PB (H) is set to high.
● This port is low when AV1 PB (H) is set to low.</td></tr>
<tr><td>119</td><td>I</td><td>GND</td><td>GND</td></tr>
<tr><td>120</td><td>O</td><td>DEA</td><td rowspan="2">AV2 output control.
<table><tr><td>AV2 OUTPUT</td><td>DEA</td><td>DEB</td></tr><tr><td>TUNER</td><td>H</td><td>L</td></tr><tr><td>AV1</td><td>L</td><td>L</td></tr><tr><td>SAT</td><td>L</td><td>H</td></tr><tr><td>VCR OUT</td><td>H</td><td>H</td></tr></table></td></tr>
<tr><td>121</td><td>O</td><td>DEB</td></tr>
</table>

Fig. MP5

Pin Number	Input/Output	Port Name	Function
122	O	AI MES (H)	This port is high when measuring the head and tape condition to determine the optimum recording current before starting the AI recording.
123	O	POWER OFF (H)	Power on/off control.
124	O	TRICK (L)	This port is low during special playback (CUE, REV, SLOW, STILL) mode.

Fig. MP6

	MODE 1	MODE 2	MODE 3	MODE 4
PIN 111 (SYSTEM 1)	H: MESECAM L : PAL Z : AUTO	H: MESECAM L : PAL	H: PAL L : NTSC Z : AUTO	H: MESECAM L : PAL Z : AUTO
PIN 110 (SYSTEM 2)	H: EXCEPT NTSC L : NTSC-M	H: SECAM L : PAL Z : AUTO	——	H: EXCEPT NTSC L : NTSC-M
PIN 35 (SYSTEM 4)	H: PAL- I L : B/G/D/K	H: SECAM L : PAL	——	H: PAL-I L : B/G/D/K
PIN 36 (SYSTEM 5)	H: PAL L : NTSC	H: PAL L : NTSC	H: 50Hz L : 60Hz	H: PAL L : NTSC

Z: HIGH IMPEDANCE

Fig. MP7

Note: 1. The mode is decided depend on SYSTEM SELECT PORT (PIN 97).

INPUT/OUTPUT CHART FOR IC7503

Pin Number	Input/Output	Port Name	Function
1	O	L CH (L)	FIP level meter Lch (L)
2	I	AFC (S)	AFC S-CURVE
3	O	DEL (L)	AV2 connector detection DECODER: LOW EXT : HIGH
4	O	L CTL	LANK clock control
5	I	JOG1	JOG1
6	O	IC CLK	Tuner IC control clock
7	I	IR	Remote controller data
8	I	L CLK	LANK clock
9	O	FS CS (H)	FS chip select (H)
10	I	JOG2	JOG2
11	O	SAT IR	SAT IR output
12	I	POW FAIL (L)	Power fail detection
13	I	RESET (L)	Reset (L)
14	I	S CLK	Serial clock
15	I	S DATA IN	Serial data input
16	O	S DATA OUT	Serial data input
17	O	T CLK	Timer bus clock output
18	I	T LSN	Timer data input (from OSD)
19	O	T TLK	Timer data output (to OSD)
20	O	128Hz	128Hz
21	I	NC	Not used
22	O	STAND BY (L)	Stand by (L)
23	O	NC	Not used
24	O	FIP (L)	FIP heater on (L)

Fig. MP8

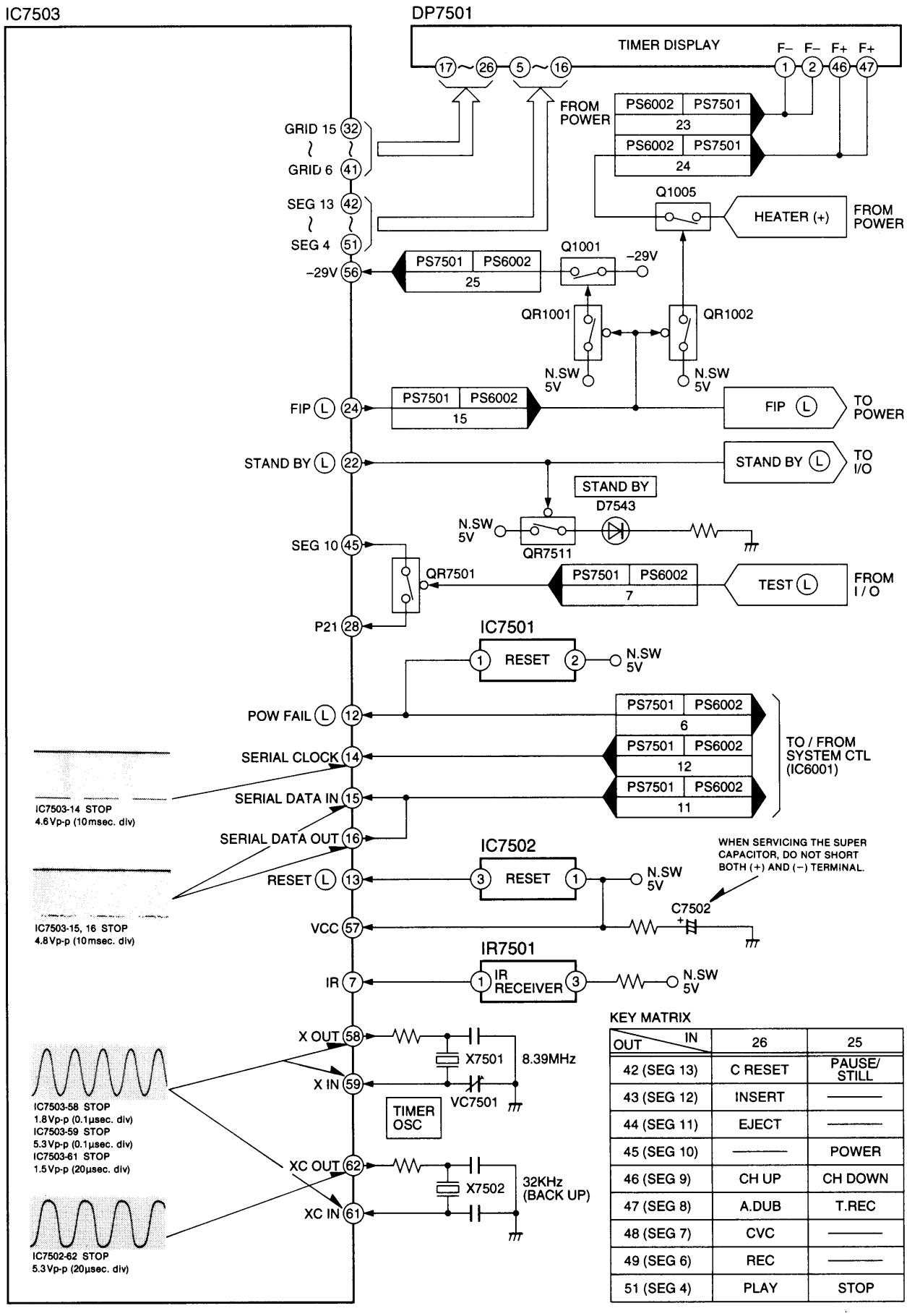
Pin Number	Input/Output	Port Name	Function
25 26 27 28 29	I	KEY SCAN	Key scan input
30	O	AUDIO DEF (H)	Audio defeat high output
31	O	R CH (L)	FIP level meter Rch (L)
32	O	P17	DGT1
33	O	P16	DGT2
34	O	P15	DGT3
35	O	P14	DGT4
36	O	P13	DGT5
37	O	P12	DGT6
38	O	P11	DGT7
39	O	P10	DGT8
40	O	P07	DGT9/Key scan output
41	O	P06	DGT10/Key scan output
42	O	P05	SEG J/Key scan output
43	O	P04	SEG I/Key scan output
44	O	P03	SEG H/Key scan output
45	O	P02	SEG D/Key scan output
46	O	P01	SEG E/Key scan output
47	O	P00	SEG C/Key scan output
48	O	P37	SEG G/Key scan output
49	O	P36	SEG F/Key scan output
50	O	P35	SEG B/Key scan output
51	O	P34	SEG A/Key scan output
52	O	AI ON (H)	AI on (H) output
53	O	OSD ON (H)	OSD on (H) output
54	O	METER OFF (H)	Level meter off (H) output

Fig. MP9

Pin Number	Input/Output	Port Name	Function
55	O	MONO (H)	Forced MONO (NICAM off) (H) output
56	—	VEE	−29V
57	—	VCC	+5V
58	O	XOUT	8.39MHz clock output
59	I	XIN	8.39MHz clock input
60	—	VSS	GND
61	I	XCIN	32KHz clock input
62	O	XCOUT	32KHz clock output
63	O	SIMUL (H)/SI (H)	Simul (H) output
64	O	SELECT MUTE (H)	Audio select mute (H) output

Fig. MP10

3-2. TIMER BLOCK DIAGRAM

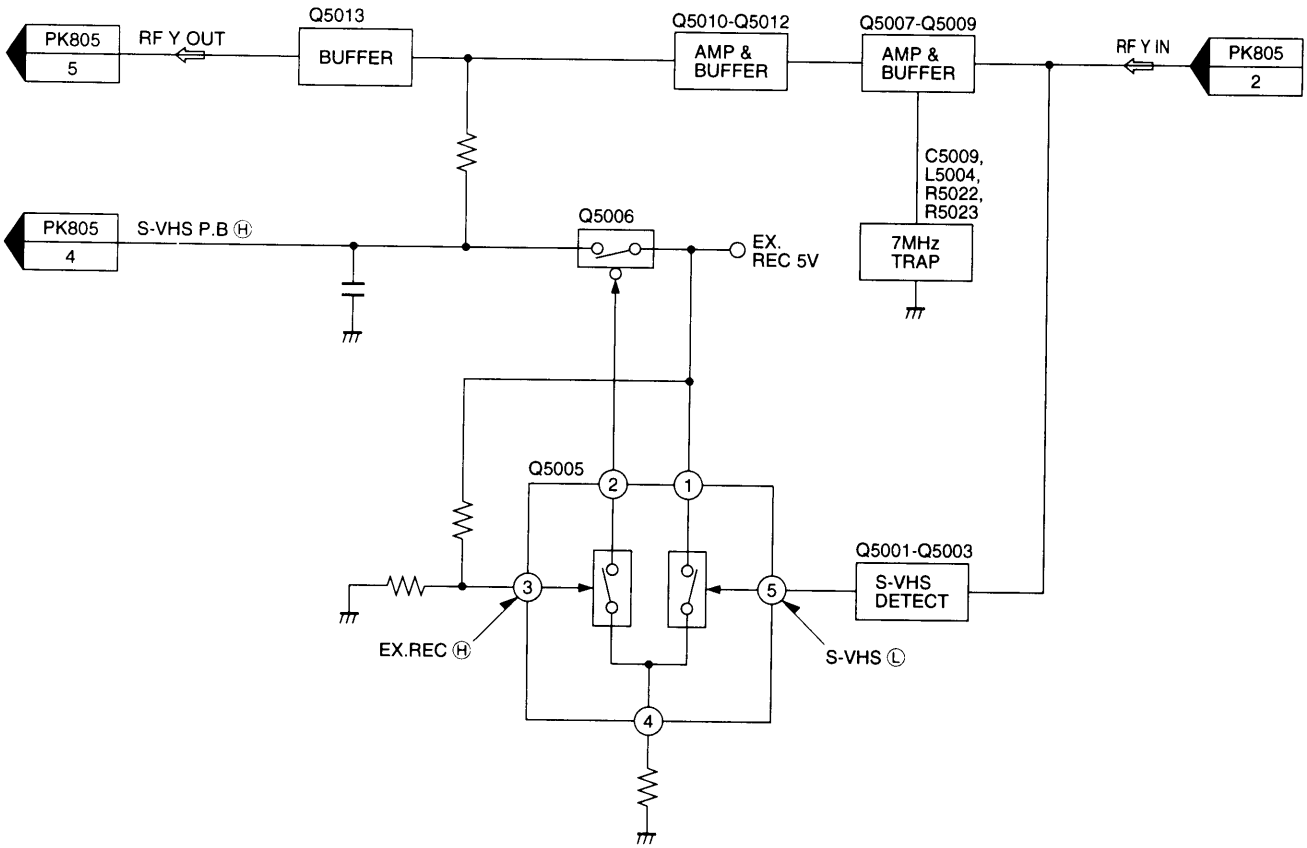


KEY MATRIX

OUT \ IN	26	25
42 (SEG 13)	C RESET	PAUSE/ STILL
43 (SEG 12)	INSERT	———
44 (SEG 11)	EJECT	———
45 (SEG 10)	———	POWER
46 (SEG 9)	CH UP	CH DOWN
47 (SEG 8)	A.DUB	T.REC
48 (SEG 7)	CVC	———
49 (SEG 6)	REC	———
51 (SEG 4)	PLAY	STOP

3-3. S-VHS PLAYBACK (1) PACK BLOCK DIAGRAM

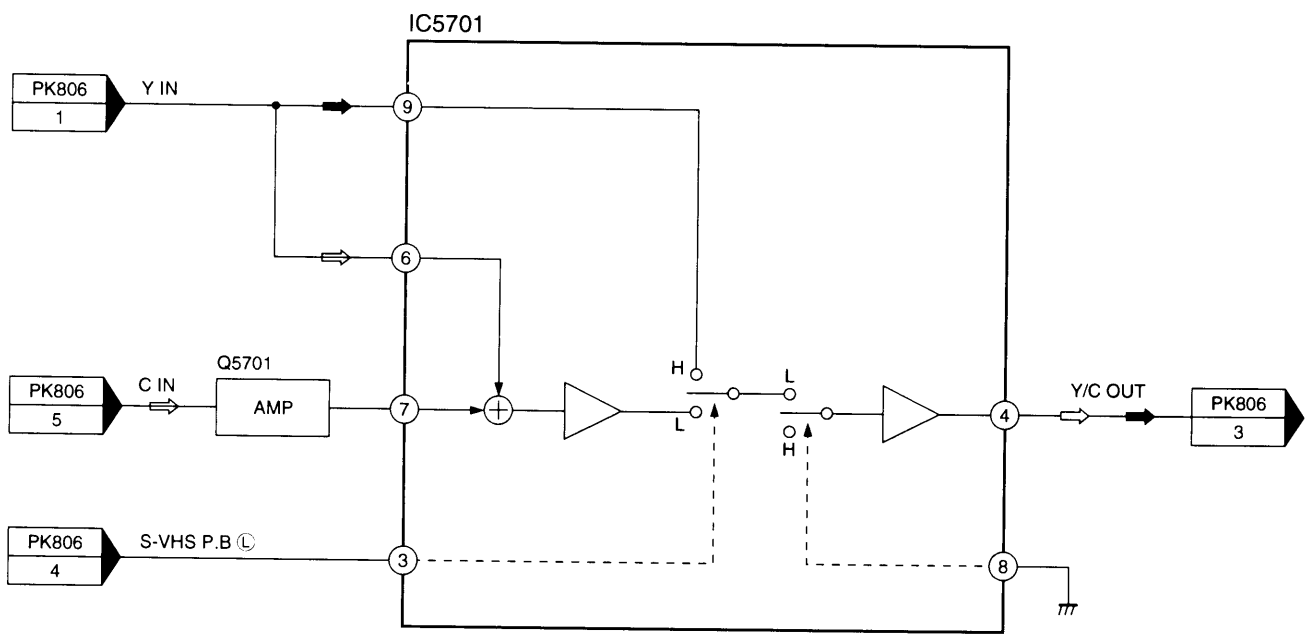
⇦ MAIN SIGNAL PATH IN PLAYBACK MODE



3-4. S-VHS PLAYBACK (2) PACK BLOCK DIAGRAM

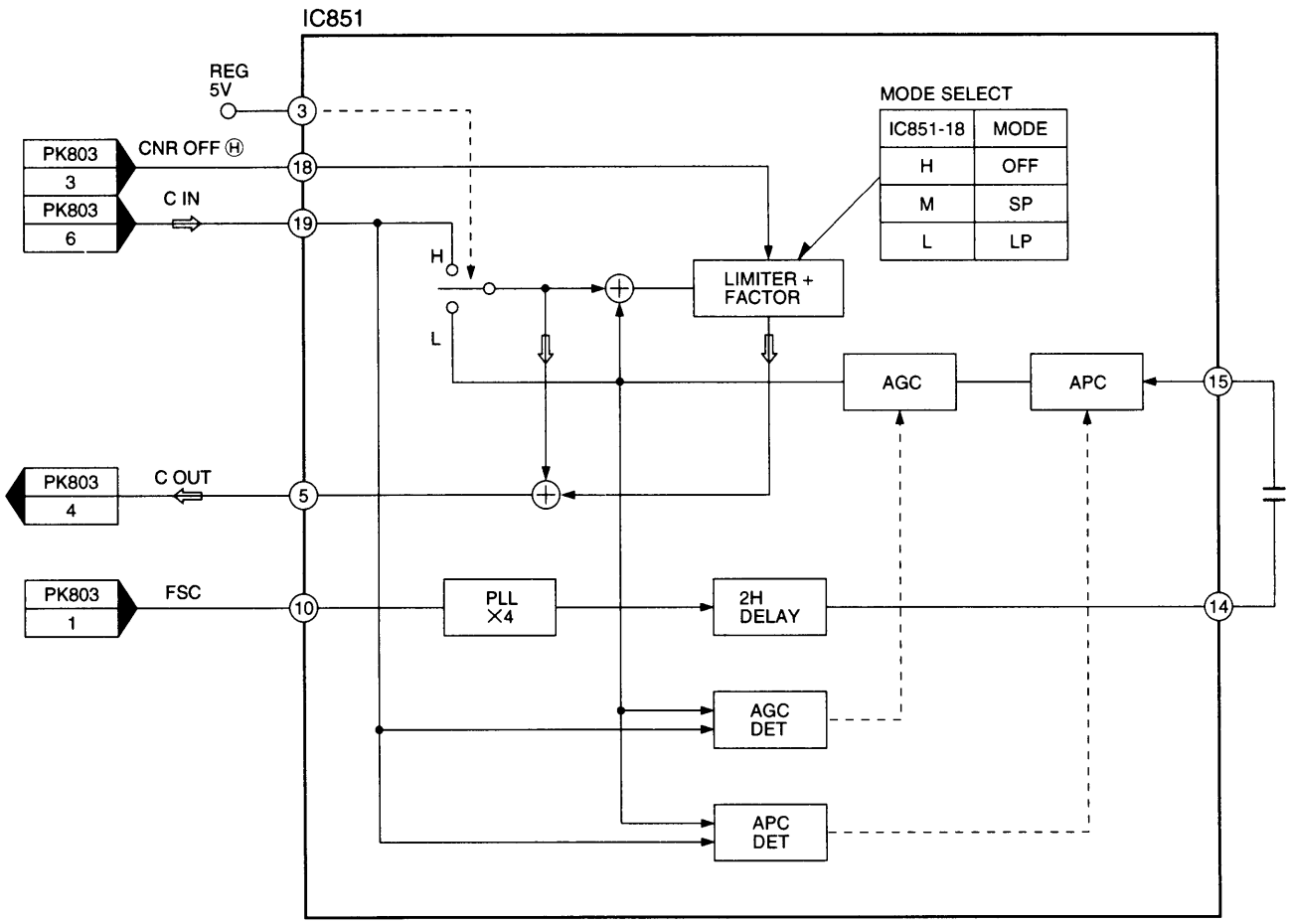
⬅ MAIN SIGNAL PATH IN REC MODE

⇦ MAIN SIGNAL PATH IN PLAYBACK MODE

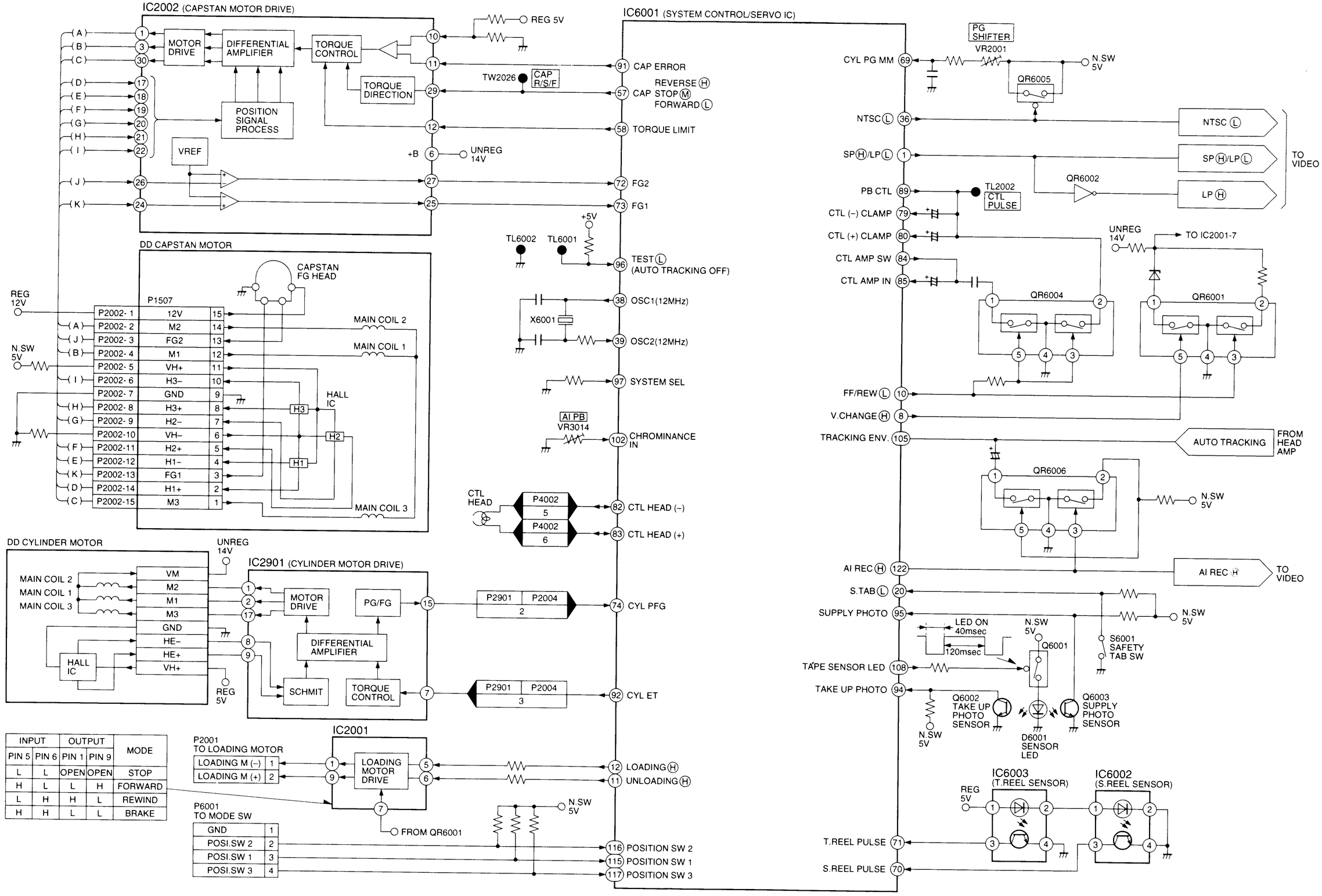


3-5. CNR PACK BLOCK DIAGRAM

⇦ MAIN SIGNAL PATH IN PLAYBACK MODE



3-6. SYSTEM CONTROL & SERVO BLOCK DIAGRAM



INPUT		OUTPUT		MODE
PIN 5	PIN 6	PIN 1	PIN 9	
L	L	OPEN	OPEN	STOP
H	L	L	H	FORWARD
L	H	H	L	REWIND
H	H	L	L	BRAKE

3-7. LUMINANCE & CHROMINANCE BLOCK DIAGRAM

MAIN SIGNAL PATH IN REC MODE ⇦ MAIN SIGNAL PATH IN PLAYBACK MODE

IC3902

INPUT (9)	(10)	(11)	OUTPUT (15)	
L	L	L	(2)	FROM OSD
L	L	H	(2)	FROM TUNER
L	H	L	(1)	
L	H	H	(1)	
H	L	L	(2)	
H	L	H	(2)	
H	H	L	(1)	
H	H	H	(1)	
*	*	*	NONE	

IC3906

INPUT (9)	(10)	(11)	OUTPUT (3)
L	L	L	(13)
L	L	H	(14)
L	H	L	(15)
L	H	H	(12)
H	L	L	(1)
H	L	H	(5)
H	H	L	(2)
H	H	H	(4)
*	*	*	NONE

IC3903

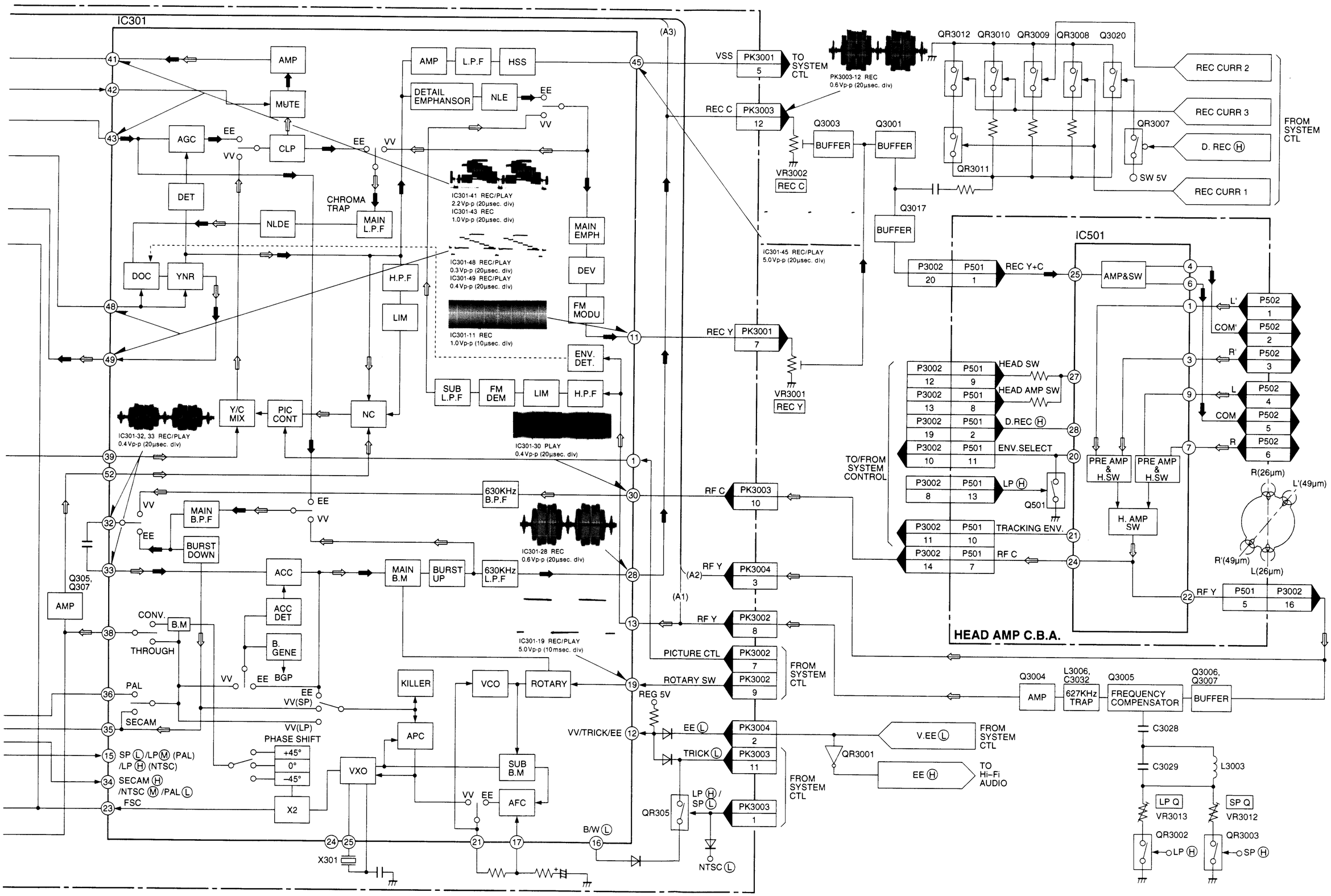
INPUT (9)	(10)	OUTPUT (3)
L	L	(1)
L	H	(5)
H	L	(2)
H	H	(4)
*	*	NONE

PP3002 2 VIDEO OUT
PP3002 4 TUNER VIDEO
AV2 (DECODER)
AV1 (TV)
Q3909
IC3906
VIDEO IN → PP3002 6
SAT Ⓗ → PP3002 3 FROM SYSTEM CTL
AV 3 IN → P3901 2 FROM OPERATION
Q3901,Q3903 AMP
UNREG 14V
QR3904
QR3901
QR3903
UNREG 14V
IC3903
PP3004 4 CPB
PP3004 3 RGB
PP3003 7 DEB
PP3003 6 DEA
PP3004 2 VB
PP3004 1 VA
PP3003 5 APB
PP3003 4 TV
FROM SYSTEM CTL
Q3902,Q3904 AMP
IC3902
FROM TIMER → PP3002 9 SAT CTL → Q3910 AMP → SAT IR
JK3901 (EDIT 5P)
5P CLOCK → PP3003 2
5P DATA → PP3003 1
TO / FROM SYSTEM CTL
N.SW 5V
TO TUNER ← PP3002 1 RF ON Ⓗ
S3902 RF OFF / TEST OFF / TEST ON
STAND BY Ⓛ → PP3004 5 FROM SYSTEM CTL
QR3902
OSD DATA → PP3004 7
OSD CLK → PP3004 6
TO / FROM OSD
TO TIMER ← PP3002 10 TEST ON Ⓛ
JK3904 (VCR SAT)

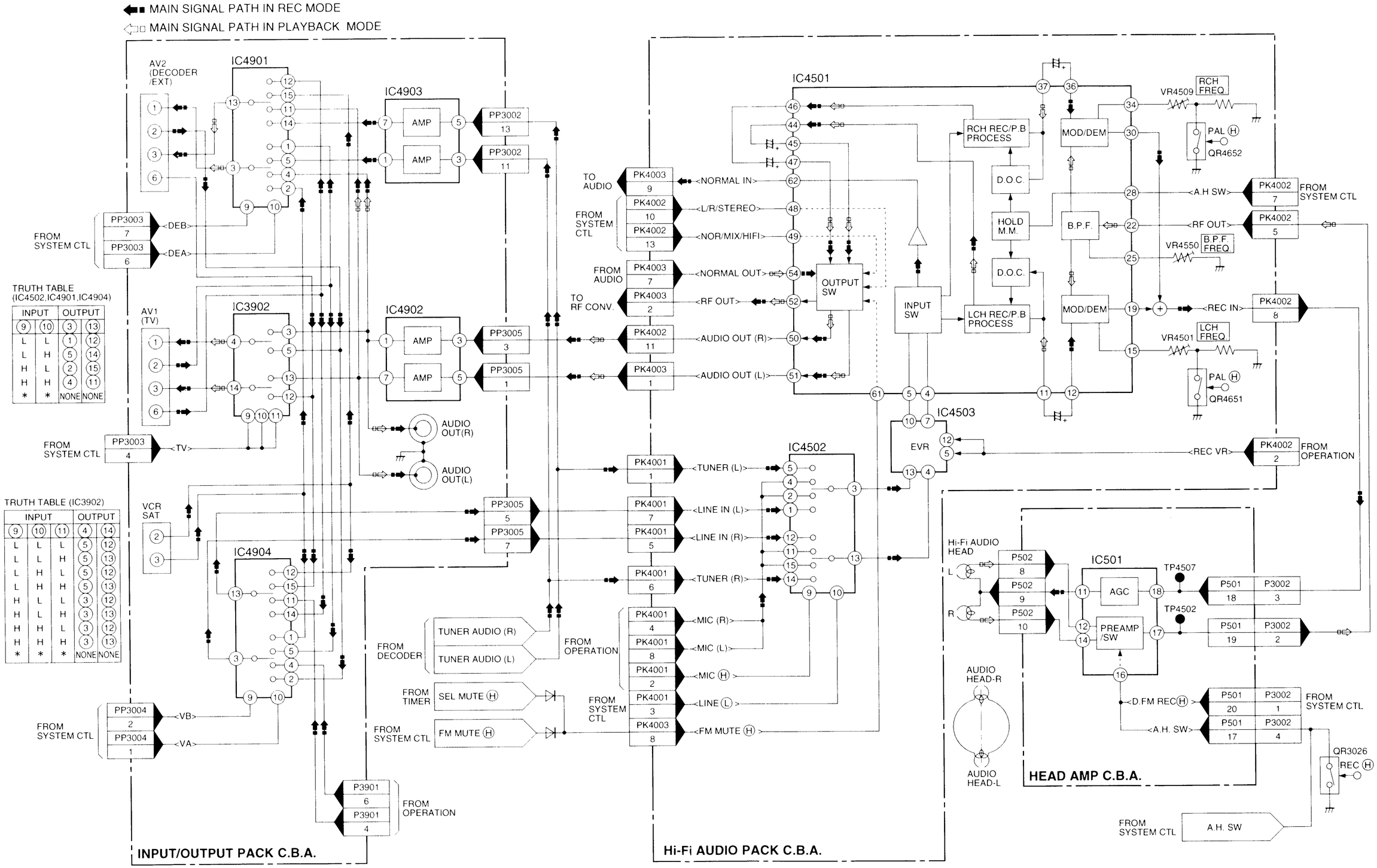
INPUT/OUTPUT PACK C.B.A.

TO OSD ← PK3001 2 VIDEO OUT
FROM SYSTEM CTL → PK3002 6 ART V/H/N
PK3001 4 VIDEO IN
Q308, Q309
L.P.F
AMP
IC302
1H DELAY
SCHMITT
SECAM/ MESECAM
2H DELAY PAL
1H DELAY NTSC
Q304 AMP
S-VHS P.B Ⓗ
S-VHS P.B (2) PACK
PK806 5
PK806 3
PK806 4
PK806 1
Q310,QR319 C376,R373
NTSC P.B DETECT
FROM SYSTEM CTL → PK3002 2 NTSC Ⓛ
Q301, Q302 AMP
S-VHS P.B (1) PACK
PK805 4
PK805 5 (A1)
PK805 2 (A2)
(A3)
EE Ⓛ
QR315
IC301-35 PLAY 0.6Vp-p (20μsec. div)
IC301-36 PLAY 0.1Vp-p (20μsec. div)
IC301-38, 39 PLAY 0.4Vp-p (20μsec. div)
TO SYSTEM CTL ← PK3004 1 S-VHS P.B Ⓗ
QR311
QR304
CNR PACK
LP Ⓗ
PK803 4
PK803 1
PK803 3
PK803 6
FROM SYSTEM CTL → PK3001 10 MESECAM Ⓗ

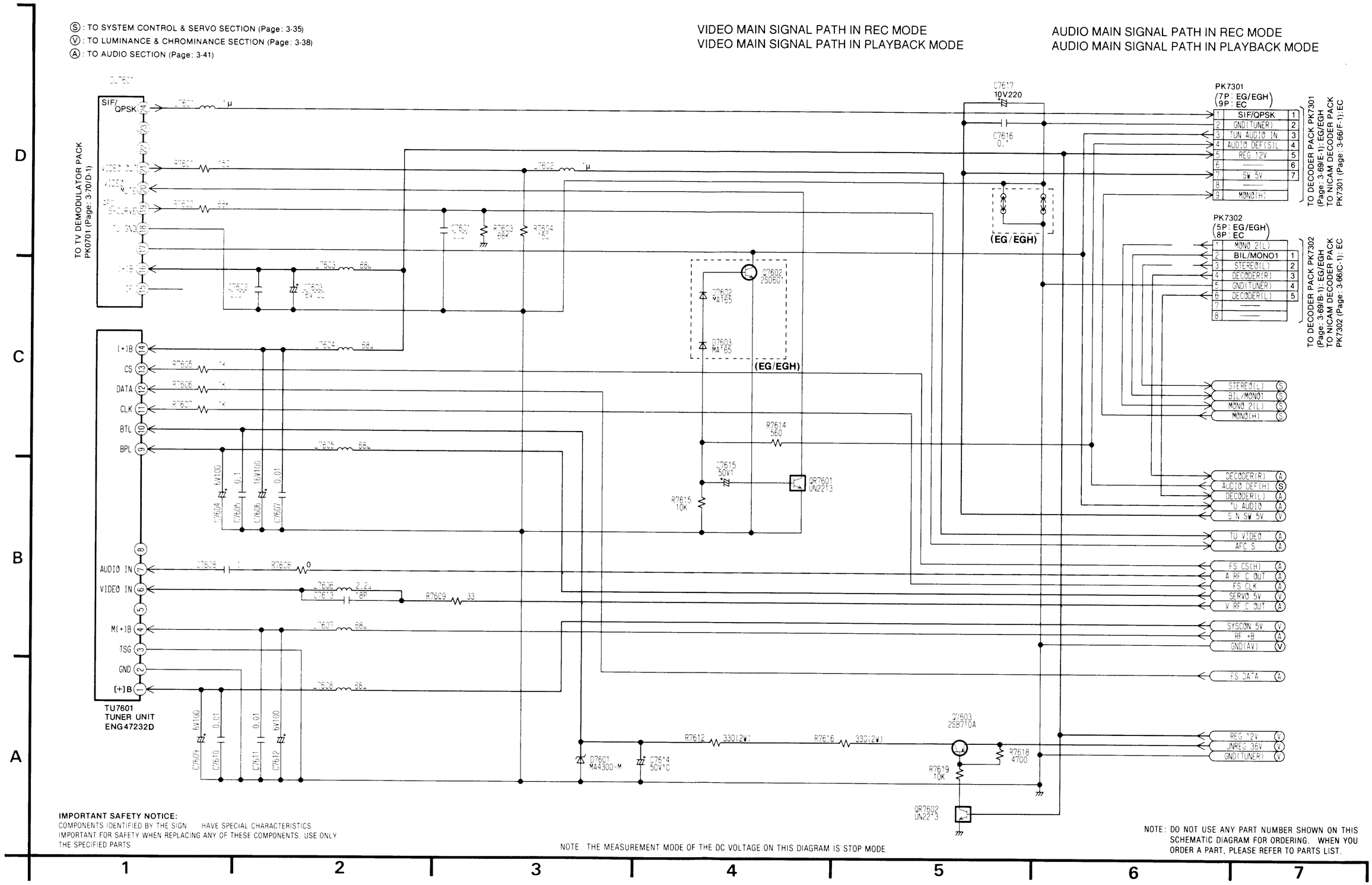
LUMINANCE & CHROMINANCE PACK C.B.A.


IC301
(A3)
AMP
MUTE
AGC
CLP
EE
VV
DET
NLDE
CHROMA TRAP
MAIN L.P.F
DOC
YNR
H.P.F
LIM
NC
PIC CONT
Y/C MIX
AMP
L.P.F
HSS
DETAIL EMPHANSOR
NLE
MAIN EMPH
DEV
FM MODU
ENV. DET.
SUB L.P.F
FM DEM
LIM
H.P.F
IC301-41 REC/PLAY
2.2Vp-p (20μsec. div)
IC301-43 REC
1.0Vp-p (20μsec. div)
IC301-48 REC/PLAY
0.3Vp-p (20μsec. div)
IC301-49 REC/PLAY
0.4Vp-p (20μsec. div)
IC301-11 REC
1.0Vp-p (10μsec. div)
IC301-30 PLAY
0.4Vp-p (20μsec. div)
IC301-32, 33 REC/PLAY
0.4Vp-p (20μsec. div)
630KHz B.P.F
MAIN B.P.F
BURST DOWN
ACC
ACC DET
B. GENE
MAIN B.M
BURST UP
630KHz L.P.F
IC301-28 REC
0.6Vp-p (20μsec. div)
Q305, Q307
AMP
CONV.
B.M
THROUGH
PAL
SECAM
BGP
IC301-19 REC/PLAY
5.0Vp-p (10msec. div)
KILLER
VCO
ROTARY
APC
VXO
SUB B.M
AFC
X2
PHASE SHIFT
+45°
0°
−45°
SP Ⓛ/LPⓂ (PAL)
/LP Ⓗ (NTSC)
SECAM Ⓗ
/NTSC Ⓜ /PAL Ⓛ
FSC
X301
B/W Ⓛ
VSS
PK3001
5
TO SYSTEM CTL
PK3003-12 REC
0.6Vp-p (20μsec. div)
REC C
PK3003
12
VR3002
REC C
Q3003
BUFFER
Q3001
BUFFER
IC301-45 REC/PLAY
5.0Vp-p (20μsec. div)
REC Y
PK3001
7
VR3001
REC Y
RF C
PK3003
10
RF Y
PK3004
3
(A2)
(A1)
RF Y
PK3002
8
PICTURE CTL
PK3002
7
ROTARY SW
PK3002
9
REG 5V
VV/TRICK/EE
EE Ⓛ
PK3004
2
TRICK Ⓛ
PK3003
11
LP Ⓗ / SP Ⓛ
QR305
PK3003
1
NTSC Ⓛ
FROM SYSTEM CTL
QR3012
QR3010
QR3009
QR3008
Q3020
REC CURR 2
REC CURR 3
QR3007
D. REC Ⓗ
SW 5V
QR3011
REC CURR 1
FROM SYSTEM CTL
Q3017
BUFFER
IC501
P3002
20
P501
1
REC Y+C
25
AMP&SW
4
6
1
3
9
7
HEAD SW
HEAD AMP SW
D.REC Ⓗ
ENV.SELECT
TO/FROM SYSTEM CONTROL
LP Ⓗ
Q501
TRACKING ENV.
RF C
RF Y
P501
P3002
5
16
HEAD AMP C.B.A.
L'
COM'
R'
L
COM
R
P502
1
2
3
4
5
6
PRE AMP & H.SW
H. AMP SW
R(26μm)
L'(49μm)
R'(49μm)
L(26μm)
Q3004
AMP
L3006, C3032
627KHz TRAP
Q3005
FREQUENCY COMPENSATOR
Q3006, Q3007
BUFFER
C3028
C3029
L3003
LP Q
VR3013
SP Q
VR3012
QR3002
QR3003
LP Ⓗ
SP Ⓗ
V.EE Ⓛ
EE Ⓗ
QR3001
TO Hi-Fi AUDIO

3-8. Hi-Fi AUDIO BLOCK DIAGRAM



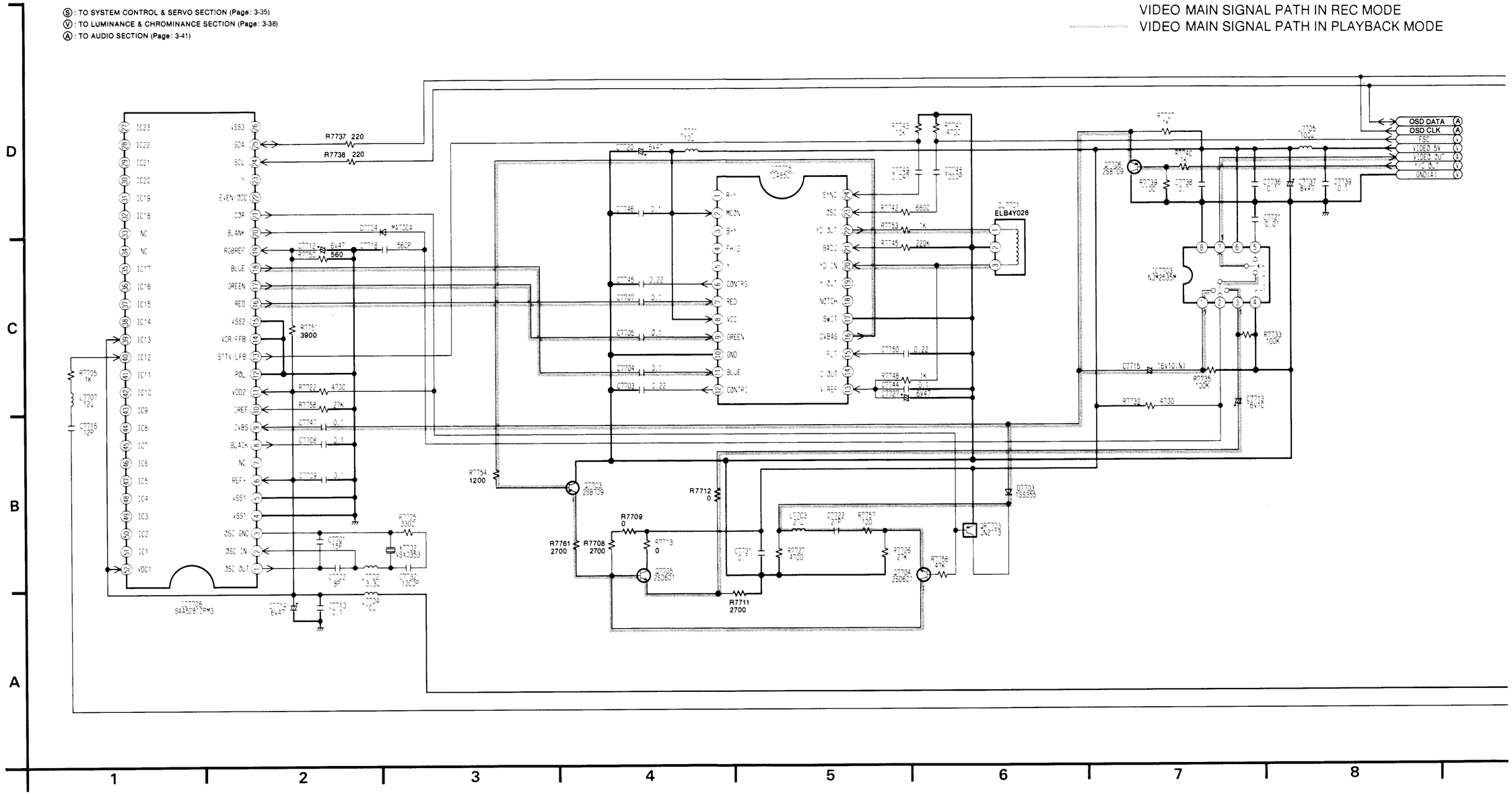
3-9. RF SECTION IN MAIN SCHEMATIC DIAGRAM

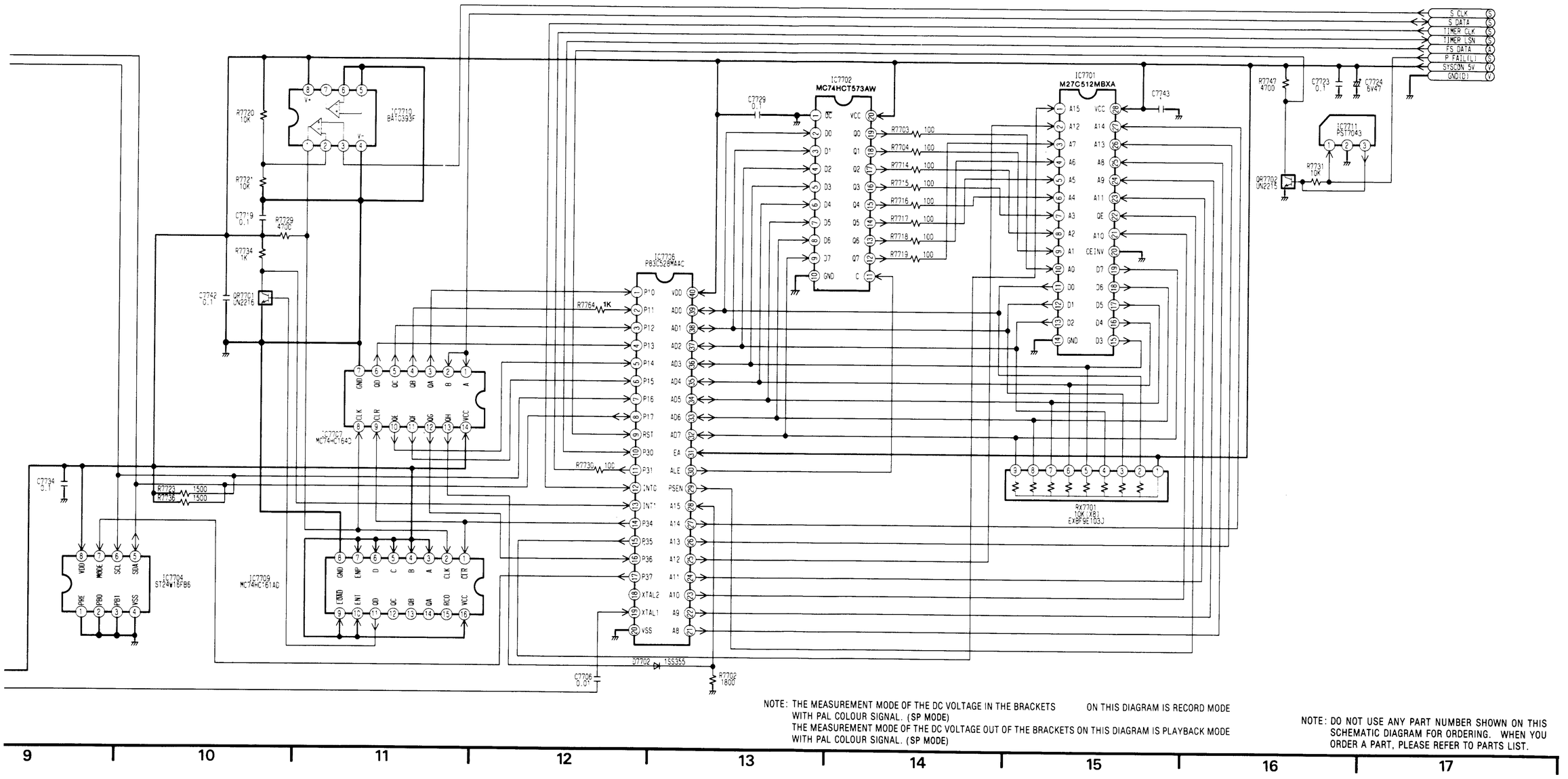


3-10. OSD SECTION IN MAIN SCHEMATIC DIAGRAM

Ⓢ : TO SYSTEM CONTROL & SERVO SECTION (Page: 3-35)
Ⓥ : TO LUMINANCE & CHROMINANCE SECTION (Page: 3-38)
Ⓐ : TO AUDIO SECTION (Page: 3-41)

VIDEO MAIN SIGNAL PATH IN REC MODE
VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE



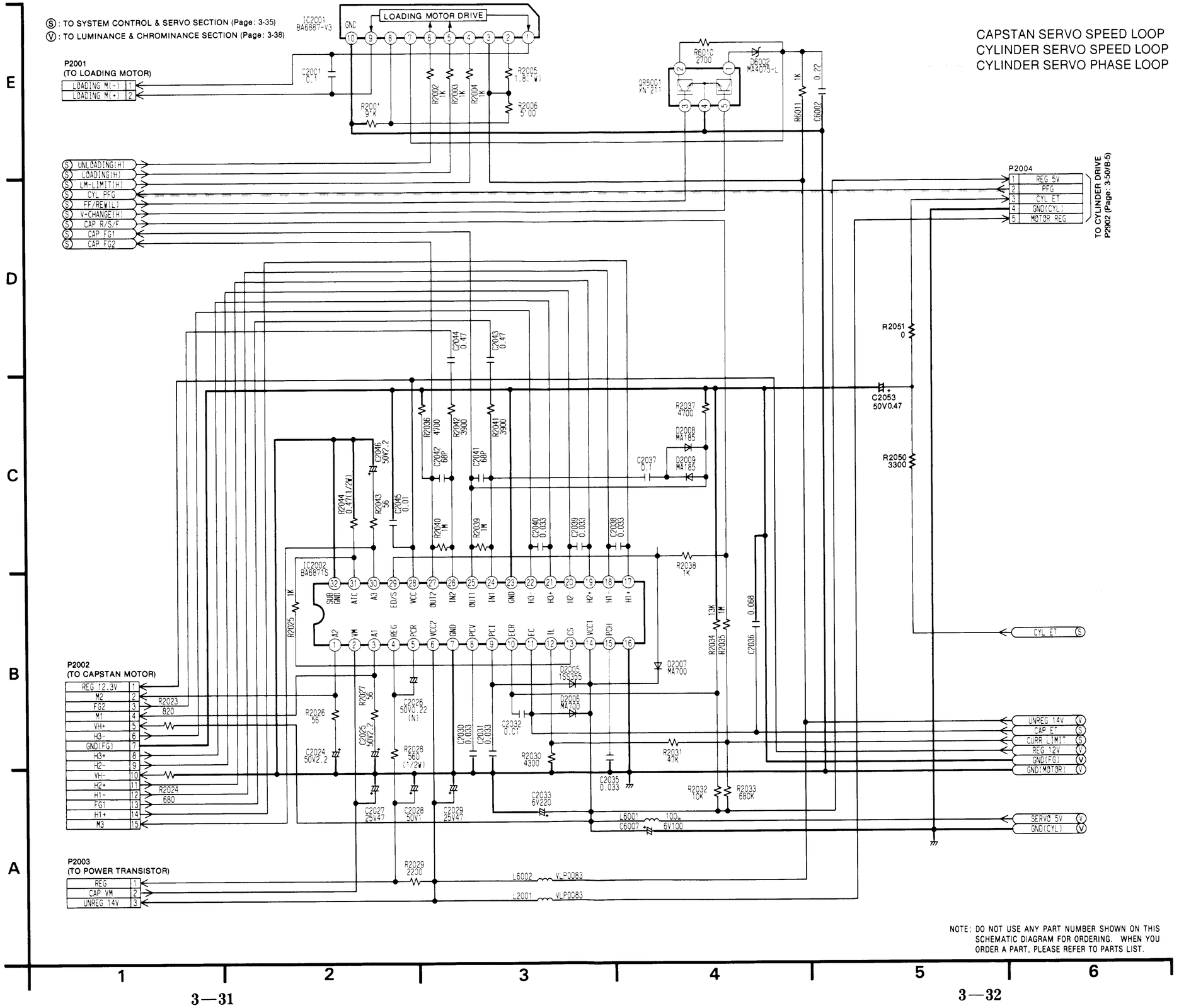


NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ON THIS DIAGRAM IS RECORD MODE
WITH PAL COLOUR SIGNAL. (SP MODE)
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE
WITH PAL COLOUR SIGNAL. (SP MODE)

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

9 10 11 12 13 14 15 16 17

3-11. MOTOR DRIVE SECTION IN MAIN SCHEMATIC DIAGRAM



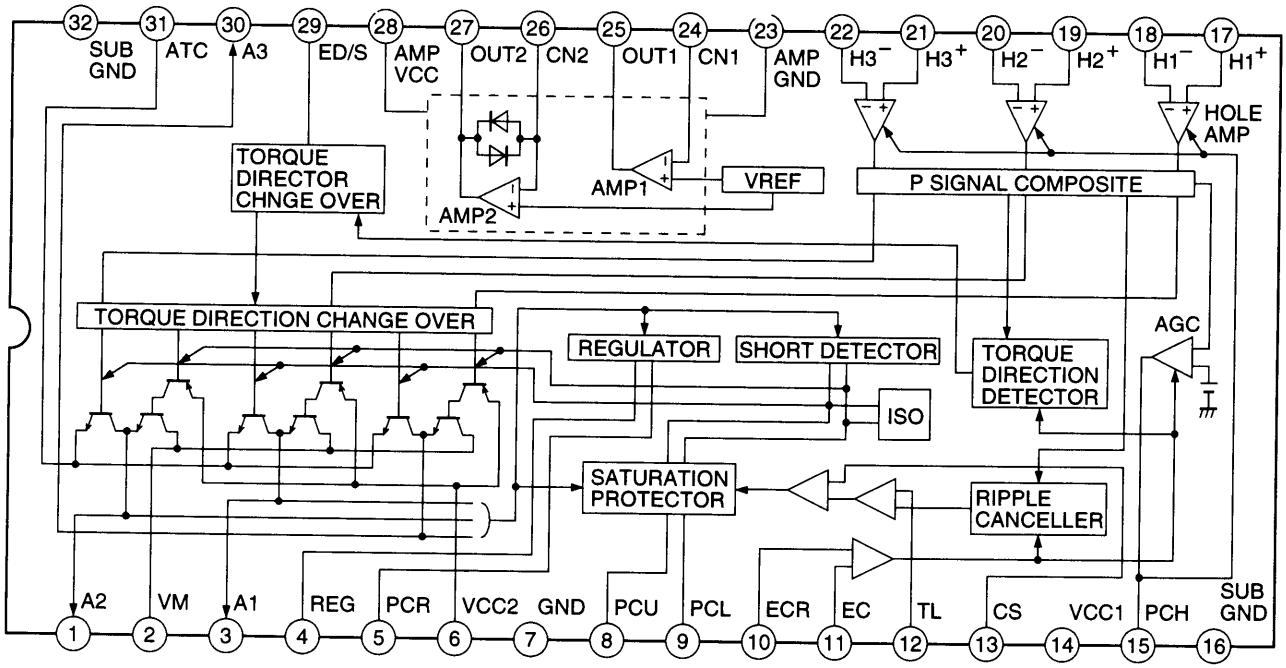
MOTOR DRIVE ICs DC VOLTAGE CHART (SP MODE)

REF. NO.	IC2001																			
MODE	1	2	3	4	5	6	7	8	9	10										
STOP	0.5	14.4	14.4	0	0	0	7.3	9.2	0.5	0										
PLAY	0.2	14.4	14.4	0	0	0	7.3	8.9	0.2	0										
REC	0.6	14.4	14.4	0	0	0	7.3	9.0	0.7	0										
F.F	0.4	14.4	14.4	0	0	0	14.0	8.9	0.4	0										
REW	0.4	14.4	14.4	0	0	0	14.0	8.9	0.4	0										
REF. NO.	IC2002																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	1.8	4.3	1.8	13.7	1.1	14.3	0	0	1.6	2.7	1.3	0	0	4.9	1.4	0	2.2	2.1	2.1	2.2
PLAY	1.6	4.2	1.5	12.7	1.7	14.0	0	0.6	0.6	2.7	2.4	0.3	0	4.9	1.4	0	2.2	2.2	2.2	2.2
REC	1.5	4.2	1.5	12.7	1.7	14.0	0	0.6	0.6	2.7	2.4	0.3	0	4.9	1.4	0	2.2	2.2	2.2	2.1
F.F	6.7	13.8	6.6	5.9	11.9	13.9	0	0.8	0.6	2.7	2.0	0.4	0	4.9	1.4	0	2.2	2.2	2.2	2.2
REW	6.7	13.9	6.7	7.1	12.0	13.9	0	0.7	0.6	2.7	2.2	0.4	0	4.9	1.4	0	2.2	2.2	2.2	2.2
REF. NO.	IC2002																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32								
STOP	2.2	2.2	0	6.3	6.2	6.3	6.2	12.2	1.9	1.8	0	0								
PLAY	2.2	2.2	0	6.3	6.2	6.2	6.2	12.2	0	1.5	0	0								
REC	2.2	2.2	0	6.3	6.2	6.2	6.2	12.2	0	1.4	0	0								
F.F	2.2	2.2	0	6.2	6.2	6.2	6.2	12.2	0	6.7	0	0								
REW	2.2	2.2	0	6.2	6.2	6.2	6.2	12.2	4.8	6.7	0	0								

MOTOR DRIVE TR.s DC VOLTAGE CHART (SP MODE)

REF. NO.	QR6001				
MODE	1	2	3	4	5
STOP	0	0	4.7	0	4.7
PLAY	0	0	4.7	0	4.7
REC	0	0	4.7	0	4.7
F.F	7.3	14.4	0	0	0
REW	7.3	14.4	0	0	0

IC2002 (BA6871S)



SYSTEM CONTROL & SERVO ICs DC VOLTAGE CHART (SP MODE)

REF. NO.	IC6001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	4.8	0	0	0	0.1	4.8	0	4.8	0	4.7	0	0	0	0	4.8	0	0.6	0	4.7	0
PLAY	4.8	4.8	0	0	4.8	4.8	0	4.7	0	4.7	0	0	0	0	4.8	0	0	0	4.7	0
REC	4.8	0	0	0	0.1	4.8	0	4.8	0	4.7	0	0	0	4.8	4.8	4.2	0	0	0	0
F.F	4.8	0	0	0	0.1	4.8	0	0	0	0	0	0	0	0	4.8	0	0	0	0	0
REW	4.8	0	0	0	0.1	4.8	0	0	0	0	0	0	0	0	4.8	0	0.7	0	0	0
REF. NO.	IC6001																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
STOP	5.0	0	0	0	4.8	0	0	0	0	4.8	0.1	0	0	4.8	4.8	4.8	4.8	2.1	2.3	4.5
PLAY	0	0	0	0	4.8	0	0	0	0	4.8	0.1	0	0	4.8	4.8	4.8	4.8	2.0	2.1	4.5
REC	5.0	0	0	0	4.8	0	0	0	0	0	4.8	0	0	4.8	4.8	4.8	4.8	2.0	2.3	4.5
F.F	5.0	0	0	0	4.8	0	0	0	0	4.8	0.1	0	0	4.8	4.8	4.8	3.6	2.0	2.3	4.5
REW	5.0	0	0	0	4.8	0	0	0	0	4.8	0.1	0	0	4.8	4.8	4.8	4.8	2.1	2.3	4.5
REF. NO.	IC6001																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
STOP	0	0	0	0	0	0	0	0	0	0	4.5	4.5	4.4	4.8	4.8	4.8	1.9	0	2.4	3.7
PLAY	0	0	0	0	0	0	0	0	0	2.4	4.5	4.5	4.4	4.8	4.8	4.8	0	4.8	2.4	2.3
REC	0	0	4.8	4.8	4.8	0	4.8	4.8	0	0	4.5	4.5	4.4	4.8	4.8	4.8	0	4.8	4.4	3.6
F.F	0	0	0	0	0	0	0	0	0	0	4.5	4.5	4.4	4.8	4.8	4.8	0	4.8	4.8	3.6
REW	0	0	0	0	0	0	0	0	0	0	4.5	4.5	4.4	4.8	4.8	4.8	4.8	4.8	4.8	3.6
REF. NO.	IC6001																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
STOP	0	0	0	0	2.8	0	2.3	0	4.9	0	5.1	2.4	2.4	1.1	0	0	2.4	2.4	2.3	2.5
PLAY	0	2.4	2.4	0	4.9	0	2.3	0	3.1	5.0	3.8	2.3	1.1	0	0	0	2.4	2.4	2.4	2.5
REC	0	2.4	2.4	0	4.8	0	2.3	0	3.1	5.0	4.0	2.3	2.4	1.1	0	0	2.4	2.4	2.2	2.5
F.F	0	2.4	0	0	2.8	0	2.3	0	2.8	2.3	2.3	2.3	2.3	1.1	0	0	2.4	2.4	2.6	2.5
REW	0	2.4	0	0	4.8	0	2.3	0	3.1	2.3	2.3	2.3	2.4	1.1	0	0	2.4	2.4	2.2	2.5
REF. NO.	IC6001																			
MODE	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
STOP	4.8	0	0	0	2.4	2.4	0	0	2.4	4.8	1.3	2.4	4.8	4.8	4.9	4.8	0	5.0	0	0
PLAY	4.8	0	0	0	2.4	2.4	0	0	2.4	4.8	2.4	2.4	4.8	4.5	4.9	4.8	0	5.0	0	0
REC	4.7	2.3	2.8	0	2.4	2.3	0	0	2.4	4.8	2.3	2.3	4.8	4.5	4.9	4.8	0	5.0	0	0
F.F	4.8	0	0	0	2.4	2.4	0	0	2.3	4.8	2.1	2.4	4.8	4.7	4.9	4.8	0	5.0	0	0
REW	4.8	0	0	0	2.4	2.4	0	0	2.3	4.8	2.1	2.3	4.8	4.8	4.8	4.8	0	5.0	0	0
REF. NO.	IC6001																			
MODE	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
STOP	2.5	3.0	4.9	0	2.3	4.9	0	4.8	0	0	0	4.8	0	4.8	0	0	4.9	0	0	0
PLAY	2.5	3.0	4.9	0	1.9	4.9	4.8	0.1	0	0	0	4.8	0	4.8	0	0	4.8	4.8	0	0
REC	2.5	3.0	4.9	0	0	4.9	0	0.1	0	0	0	4.8	0	4.8	0	0	4.9	0	0	0
F.F	2.5	3.0	4.9	0	2.1	4.9	0	0.1	0	0	0	4.8	0	4.8	0	4.9	4.9	0	0	0
REW	2.5	3.0	4.8	0	4.2	4.9	0	0.1	0	0	0	4.8	0	4.8	0	4.9	4.9	0	0	0
REF. NO.	IC6001																			
MODE	121	122	123	124																
STOP	0	0	0	4.8																
PLAY	0	0	0	4.8																
REC	0	0	0	4.8																
F.F	0	0	0	4.8																
REW	0	0	0	4.8																
REF. NO.	IC6002									IC6003										
MODE	1	2	3	4						1	2	3	4							
STOP	1.1	0	5.0	0						2.3	1.1	5.0	0							
PLAY	1.1	0	5.0	0						2.3	1.1	3.4	0							
REC	1.1	0	5.0	0						2.3	1.1	4.0	0							
F.F	1.1	0	2.3	0						2.3	1.1	2.3	0							
REW	1.1	0	2.3	0						2.3	1.1	2.3	0							

SYSTEM CONTROL & SERVO TR.s DC VOLTAGE CHART (SP MODE)

REF. NO.	Q6001			Q6002			Q6003			QR6002			QR6004					
MODE	E	C	B	E	C		E	C		E	C	B	1	2	3	4	5	
STOP	4.9	−0.8	4.9	0	4.6		0	4.9		5.0	0.4	4.8	0	0	4.6	0	4.6	
PLAY	4.9	4.8	4.1	0	4.6		0	4.9		5.0	0.4	4.8	0	0	4.6	0	4.6	
REC	4.9	4.8	4.1	0	4.6		0	4.9		5.0	0.4	4.8	0	2.8	0	0	2.8	
F.F	4.9	4.8	4.1	0	4.6		0	4.8		5.0	0.4	4.8	0	1.3	0	0	0	
REW	4.9	4.8	4.1	0	4.6		0	4.8		5.0	0.4	4.8	0	0	0	0	0	
REF. NO.	QR6005			QR6006						QR6007								
MODE	E	C	B	1	2	3	4	5		E	C	B						
STOP	5.0	4.7	4.8	0	2.8	0	0	2.8		0	0	0						
PLAY	5.0	4.7	4.8	0	2.8	0	0	2.8		0	4.7	0						
REC	5.0	4.7	4.8	0	2.8	0	0	2.8		0	0.1	0						
F.F	5.0	4.7	4.8	0	2.8	0	0	2.8		0	0.1	0						
REW	5.0	4.7	4.8	0	2.8	0	0	2.8		0	0.1	0						

3-12. SYSTEM CONTROL & SERVO SECTION IN MAIN SCHEMATIC DIAGRAM

CAPSTAN SERVO SPEED LOOP

CAPSTAN SERVO PHASE LOOP

CYLINDER SER

(TO MODE SW)

R6063 330K

D6005 MA165

D6004 MA165

C6018 0.1

R6043 0 : EG / EGH 3900 : EC

R6044 10K

R6047 10K

R6060 8200

R6061 24K

R6054 470Ω

R6055 18K

L6003 68μ

R6049 10K

R6046 10K

R4046 10K

D2001 MA153

D2002 MA151K

D2003 1SS355

D2004 1SS355

R2019 10K

R2020 470

R2021 10K

R2017 22K

C2018 25V4.7

C2021 1

C2022 1

C2019 1000P

C2020 1000P

R2016 220Ω

R2013 2700

R2012 223

C2014 0.1

C2015 6V47

R2018 22K

C2013 2200P

C2016 25V3.3

C2017 25V3.3

R2011 1k

R6038 1k

R6037 1k

R2010 10K

R2009 10K

R2007 220Ω

R6028 3900

C2005 25V220

C2006 4700P

C2007 0.068

R6031 220

R6032 220

C6011 270P

C6012 270P

C2004 0.022

C2005 0.1

C2006 3900P

C2003 1000P

C6017 56P

C6016 0.1

R6025 10K

R6024 2200

R6023 2200

R6035 2200

R6036 2200

C6004 0.1

C6005 0.1

R6039 270

R6040 68K

R6041 68K

C6002 ON1387

C6003 ON1387

QR6005 UN2112

QR6004 UN1213

QR6006 UN1217

C6001 MN6755486H4W

(M) : TO MOTOR DRIVE SECTION (Page: 3-31)
(V) : TO LUMINANCE & CHROMINANCE SECTION (Page: 3-38)
(A) : TO AUDIO SECTION (Page: 3-41)
(O) : TO OSD SECTION (Page: 3-27)
(R) : TO RF SECTION (Page: 3-25)

F E D C B A

1 2 3 4 5 6 7 8

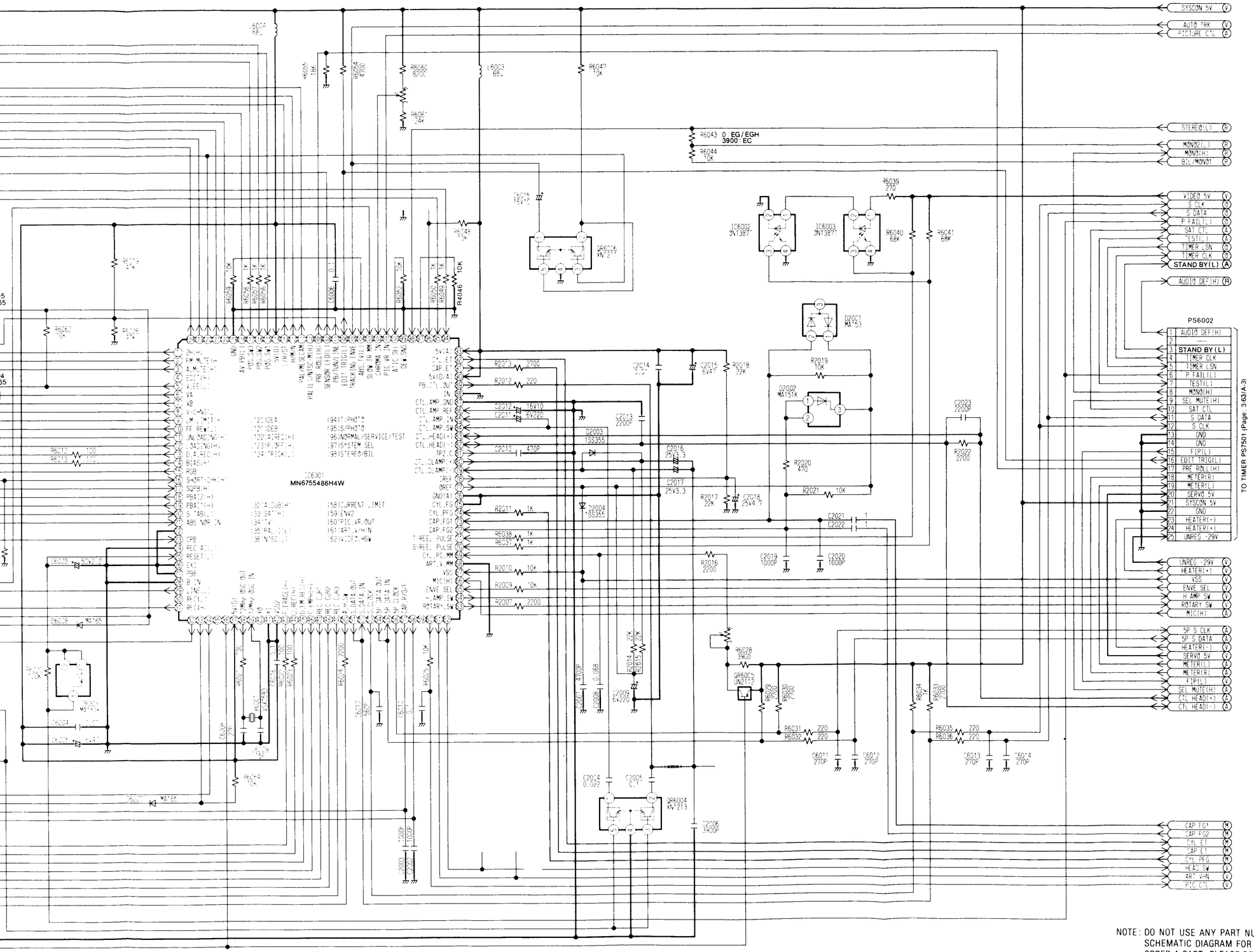
EMATIC DIAGRAM

CAPSTAN SERVO SPEED LOOP

CAPSTAN SERVO PHASE LOOP

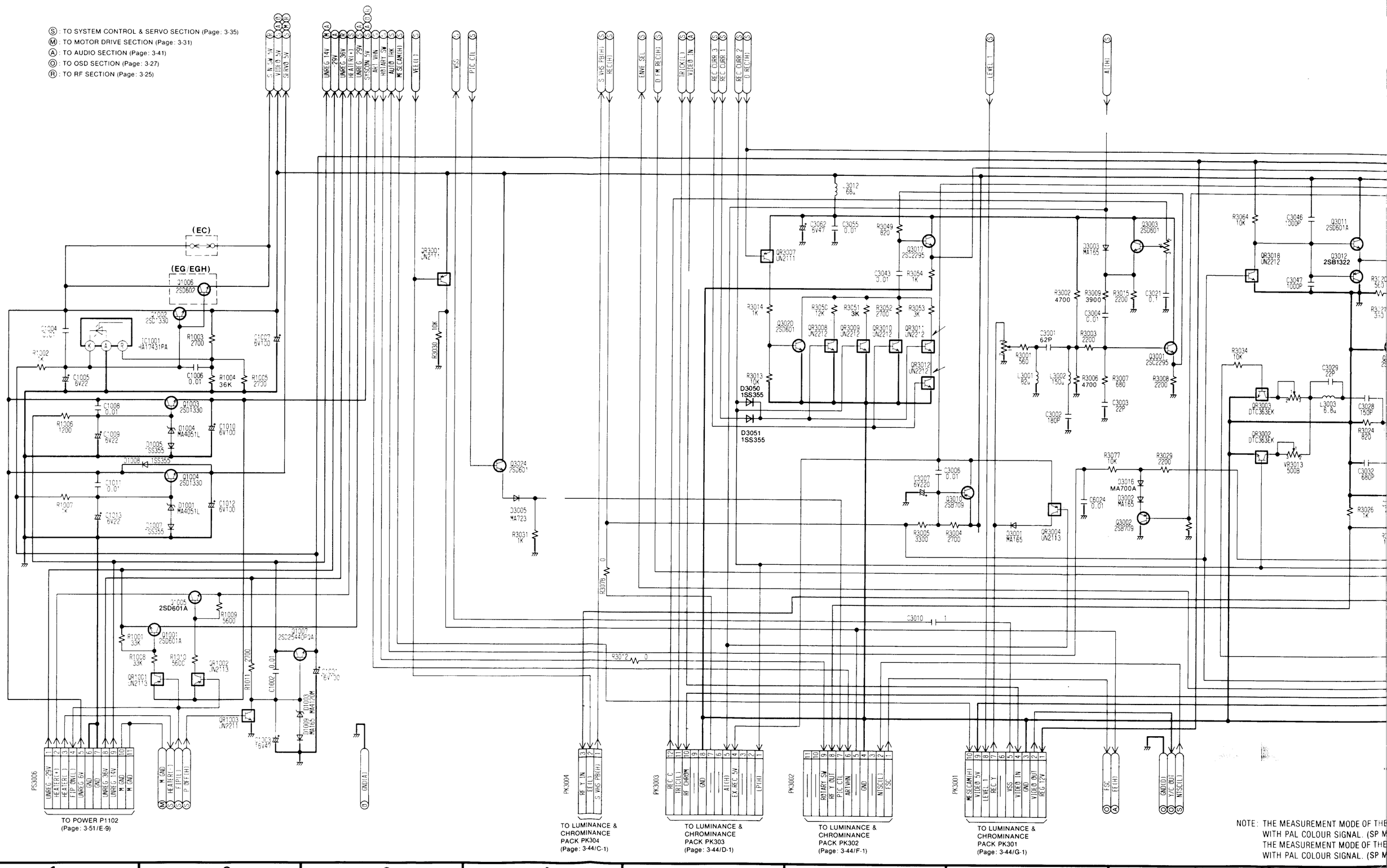
CYLINDER SERVO SPEED LOOP

CYLINDER SERVO PHASE LOOP

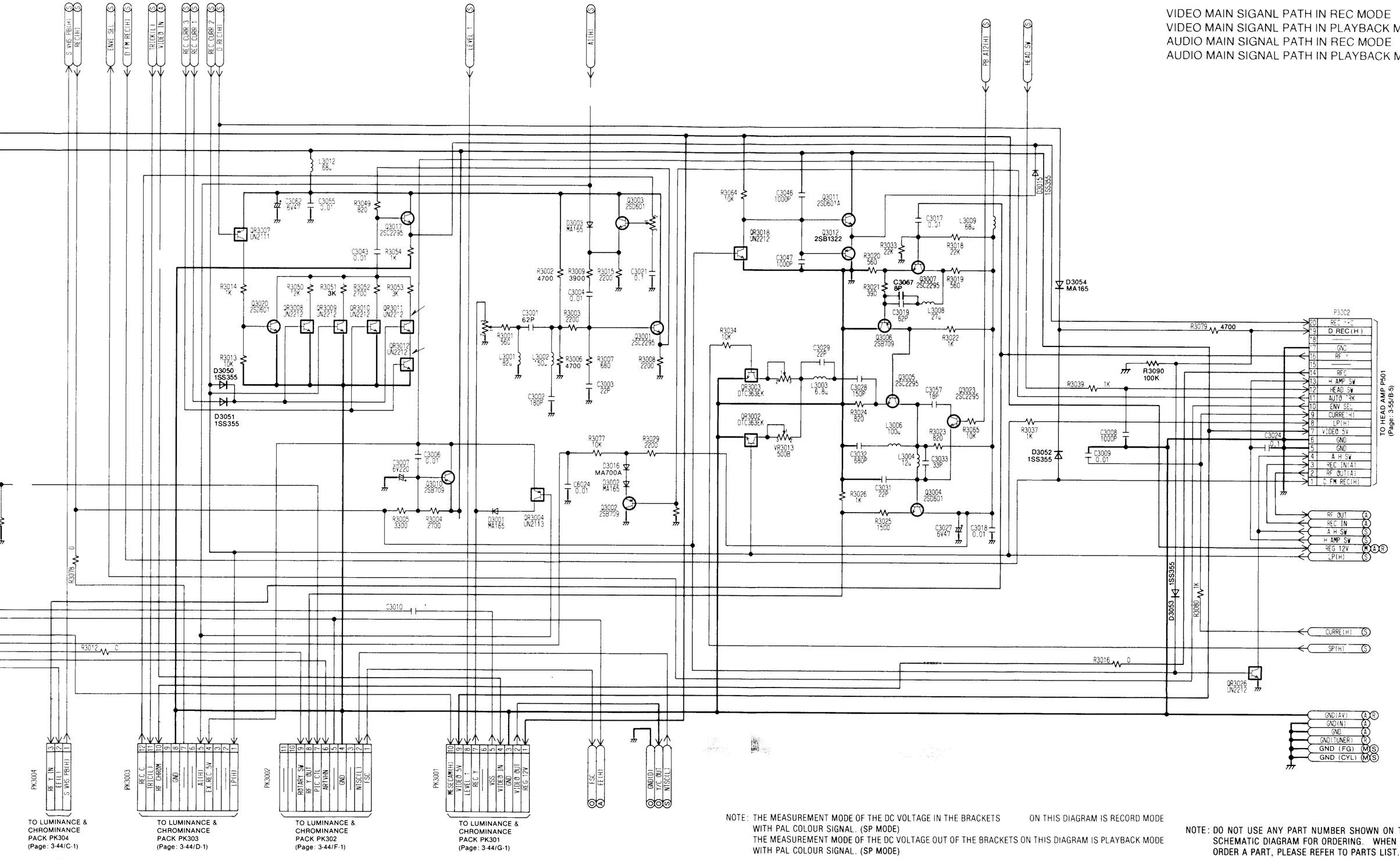

SYSCON 5V
AUTO TRK
PICTURE CTL
STEREO(L)
MONO2(L)
MONO1(H)
BIL/MONO1
VIDEO 5V
S CLK
S DATA
P FAIL(L)
SAT CTL
TEST(L)
TIMER LSN
TIMER CLK
STAND BY(L)
AUDIO DEF(H)
PS6002
1 AUDIO DEF(H)
2
3 STAND BY(L)
4 TIMER CLK
5 TIMER LSN
6 P FAIL(L)
7 TEST(L)
8 MONO(H)
9 SEL MUTE(H)
10 SAT CTL
11 S DATA
12 S CLK
13 GND
14 GND
15 FIP(L)
16 EDIT TRIG(L)
17 PRE ROLL(H)
18 METER(R)
19 METER(L)
20 SERVO 5V
21 SYSCON 5V
22 GND
23 HEATER(-)
24 HEATER(+)
25 UNREG -29V
TO TIMER PS7501 (Page 3-63/A-3)
UNREG -29V
HEATER(+)
VSS
ENVE SEL
H AMP SW
ROTARY SW
MIC(H)
5P S CLK
5P S DATA
HEATER(-)
SERVO 5V
METER(L)
METER(R)
FIP(L)
SEL MUTE(H)
CYL HEAD(+)
CYL HEAD(-)
CAP FG1
CAP FG2
CYL ET
CAP ET
CYL PFG
HEAD SW
ART VHN
PIC CTL
R6043 0: EG/EGH 3900: EC
R6044 10K
R6039 200
R6040 68K
R6041 68K
IC6002 3N1387
IC6003 3N1387
D2001 MA153
D2002 MA151K
R2019 10K
R2020 470
R2021 10K
R2022 2200
C2023 2200P
R2018 22K
C2015 6V47
C2014 0.1
R2017 22K
C2018 25V4.7
C2016 25V3.3
C2017 25V3.3
C2019 1000P
C2020 1000P
R2016 2200
R2014 22K
R2015 22K
C2009 6V220
C2008 0.068
C2007 4700P
R6028 3900
QR6005 UN2213
R6029 2700
R6030 2700
R6031 220
R6032 220
R6034 2700
R6033 2700
R6035 220
R6036 220
C6011 270P
C6012 270P
C6013 270P
C6014 270P
C2024 0.022
C2005 0.1
QR6004 UN1213
C2006 1500P
IC6001
MN6755486H4W
D6003 MA165
D6004 MA165
D6005 MA165
D6006 MA165
R6060 820C
R6061 24K
R6047 10K
R6054 470C
R6055 15K
L6003 68U
R6062 1K
R6063 1K
R6064 10K
R6065 10K
R6066 1K
R6067 1K
R6068 1K
R6069 10K
R6070 1K
R6071 1K
R6072 1K
R6073 10K
R6074 1K
R6075 1K
R6076 1K
R4046 10K
R6013 100
R6014 100
R6015 82V+5V
R6016 5V
R6017 1K
R6018 1K
R6019 1K
R6020 1K
R6021 1K
R6022 1K
R6023 1K
R6024 1K
R6025 1K
R6026 1K
R6027 1K
R6028 1K
R6029 1K
R6030 1K
R6031 1K
R6032 1K
R6033 1K
R6034 1K
R6035 1K
R6036 1K

3-13. LUMINANCE & CHROMINANCE SECTION IN MAIN SCHEMATIC DIAGRAM

Ⓢ : TO SYSTEM CONTROL & SERVO SECTION (Page: 3-35)
Ⓜ : TO MOTOR DRIVE SECTION (Page: 3-31)
Ⓐ : TO AUDIO SECTION (Page: 3-41)
Ⓞ : TO OSD SECTION (Page: 3-27)
Ⓡ : TO RF SECTION (Page: 3-25)



VIDEO MAIN SIGANL PATH IN REC MODE
VIDEO MAIN SIGANL PATH IN PLAYBACK MODE
AUDIO MAIN SIGNAL PATH IN REC MODE
AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE



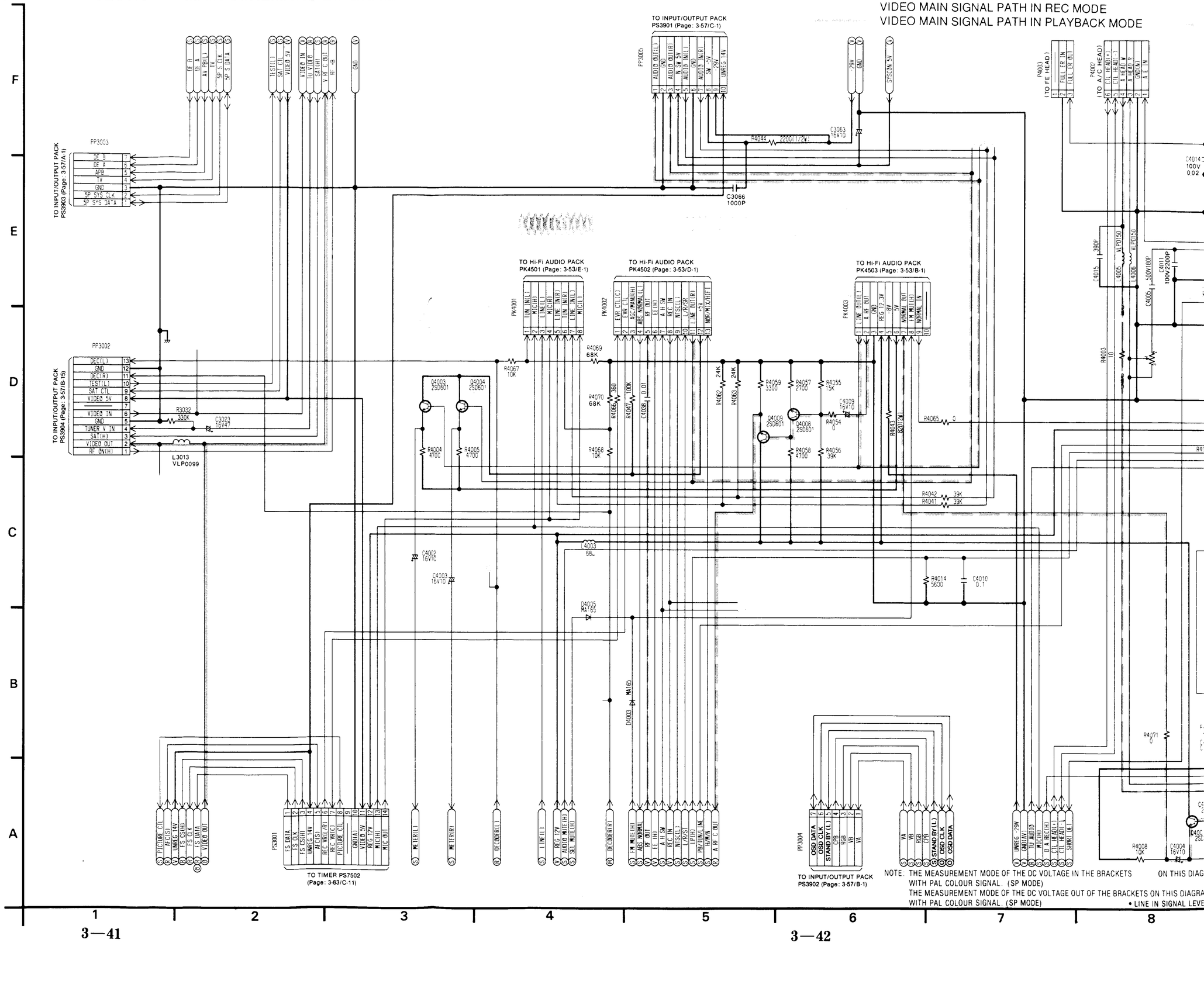
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ON THIS DIAGRAM IS RECORD MODE
WITH PAL COLOUR SIGNAL. (SP MODE)
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE
WITH PAL COLOUR SIGNAL. (SP MODE)

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

4 5 6 7 8 9 10 11 12

3-14. AUDIO SECTION IN MAIN SCHEMATIC DIAGRAM

VIDEO MAIN SIGNAL PATH IN REC MODE
VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE



DIAGRAM

VIDEO MAIN SIGNAL PATH IN REC MODE
VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE

AUDIO MAIN SIGNAL PATH IN REC MODE
AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE

Ⓢ : TO SYSTEM CONTROL & SERVO SECTION (Page: 3-35)
Ⓥ : TO LUMINANCE & CHROMINANCE SECTION (Page: 3-38)
Ⓞ : TO OSD SECTION (Page: 3-27)
Ⓡ : TO RF SECTION (Page: 3-25)

TO INPUT/OUTPUT PACK
PS3901 (Page: 3-57/C-1)

TO Hi-Fi AUDIO PACK
PK4501 (Page: 3-53/E-1)

TO Hi-Fi AUDIO PACK
PK4502 (Page: 3-53/D-1)

TO Hi-Fi AUDIO PACK
PK4503 (Page: 3-53/B-1)

TO INPUT/OUTPUT PACK
PS3902 (Page: 3-57/B-1)

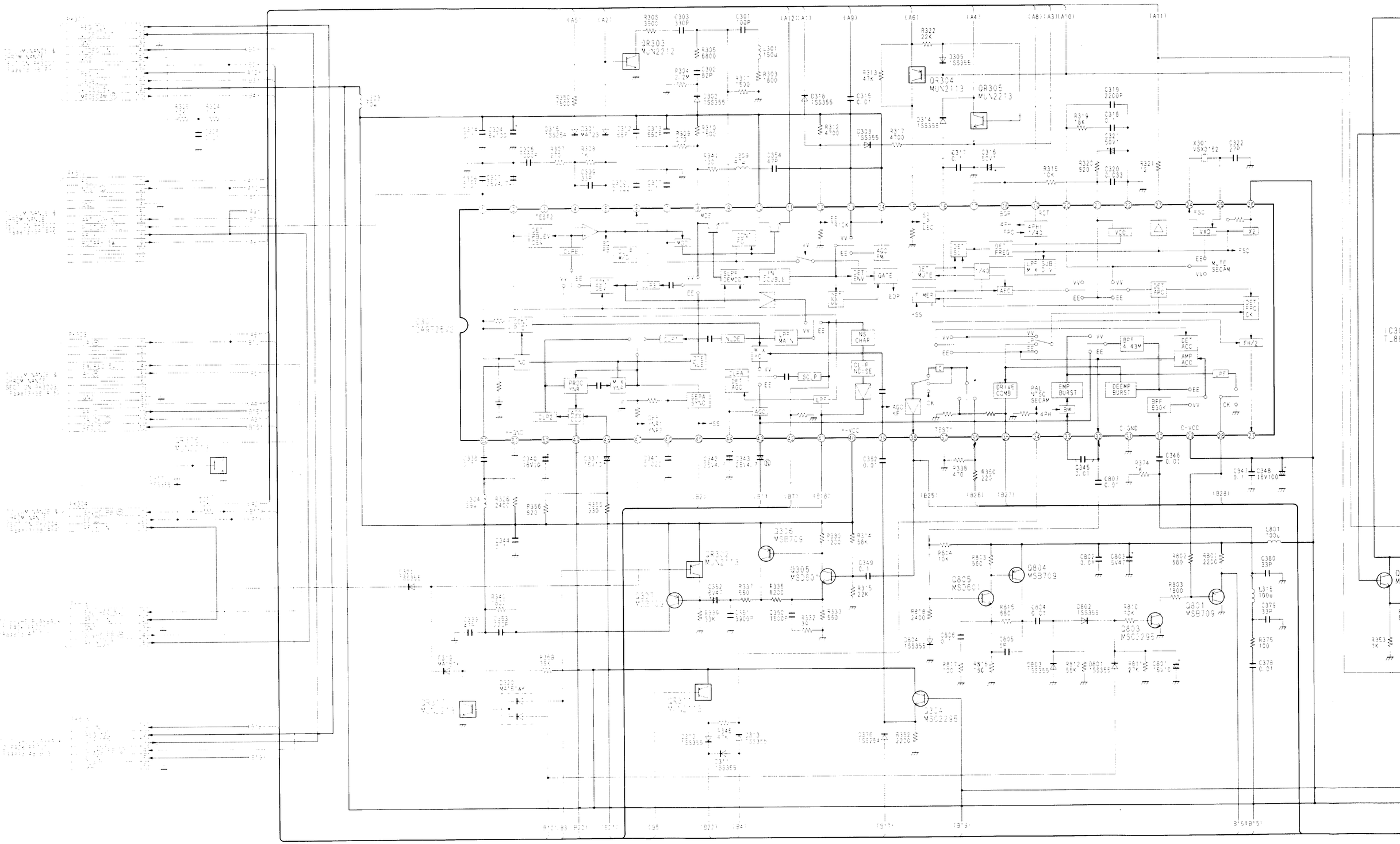
TIMER PS7502
(Page: 3-63/C-11)

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ON THIS DIAGRAM IS RECORD MODE
WITH PAL COLOUR SIGNAL. (SP MODE)
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE
WITH PAL COLOUR SIGNAL. (SP MODE) • LINE IN SIGNAL LEVEL... −10dB 1kHz

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

3 4 5 6 7 8 9 10

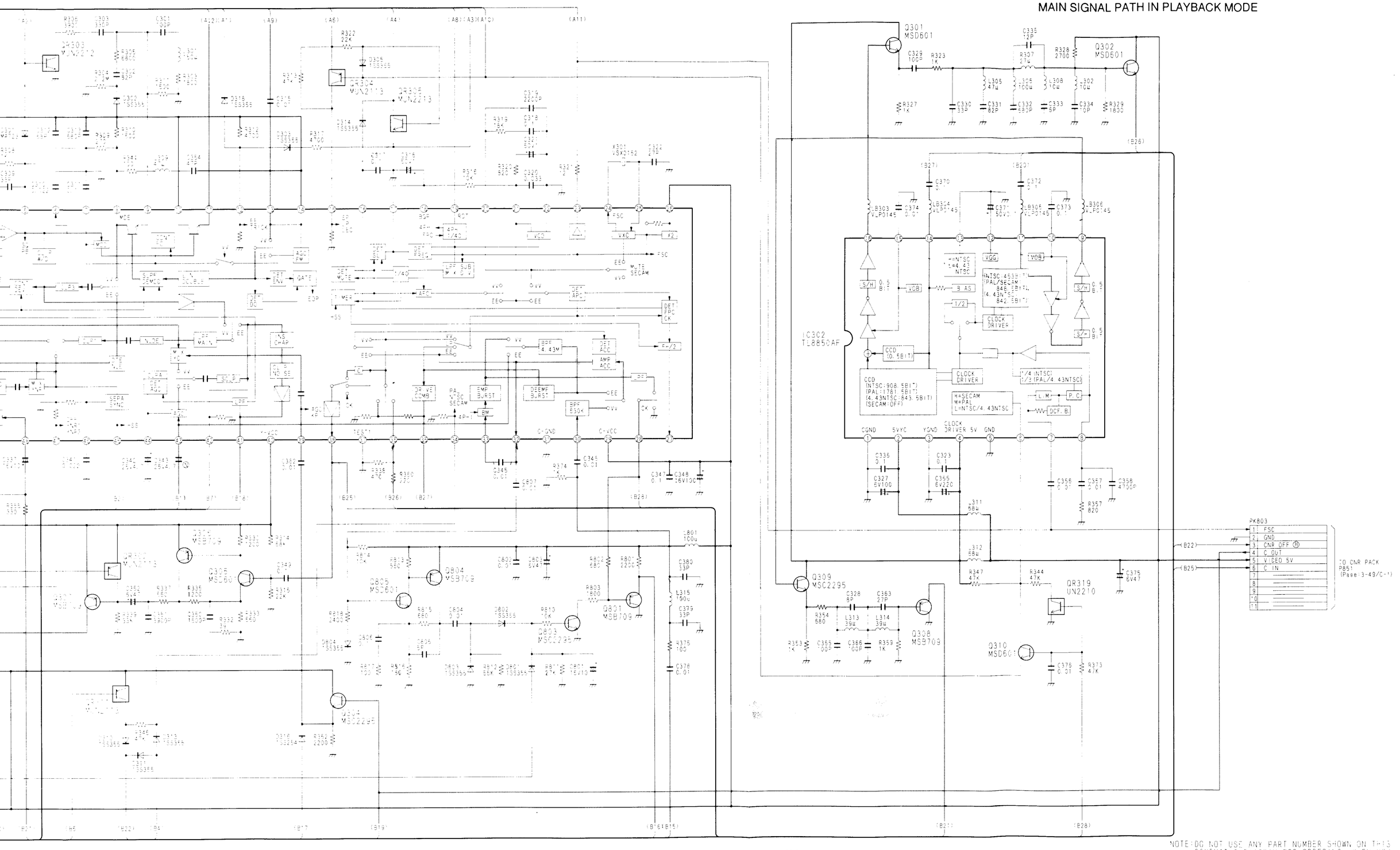
3-15. LUMINANCE & CHROMINANCE PACK SCHEMATIC DIAGRAM



NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL.

THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.

MAIN SIGNAL PATH IN REC MODE
MAIN SIGNAL PATH IN PLAYBACK MODE

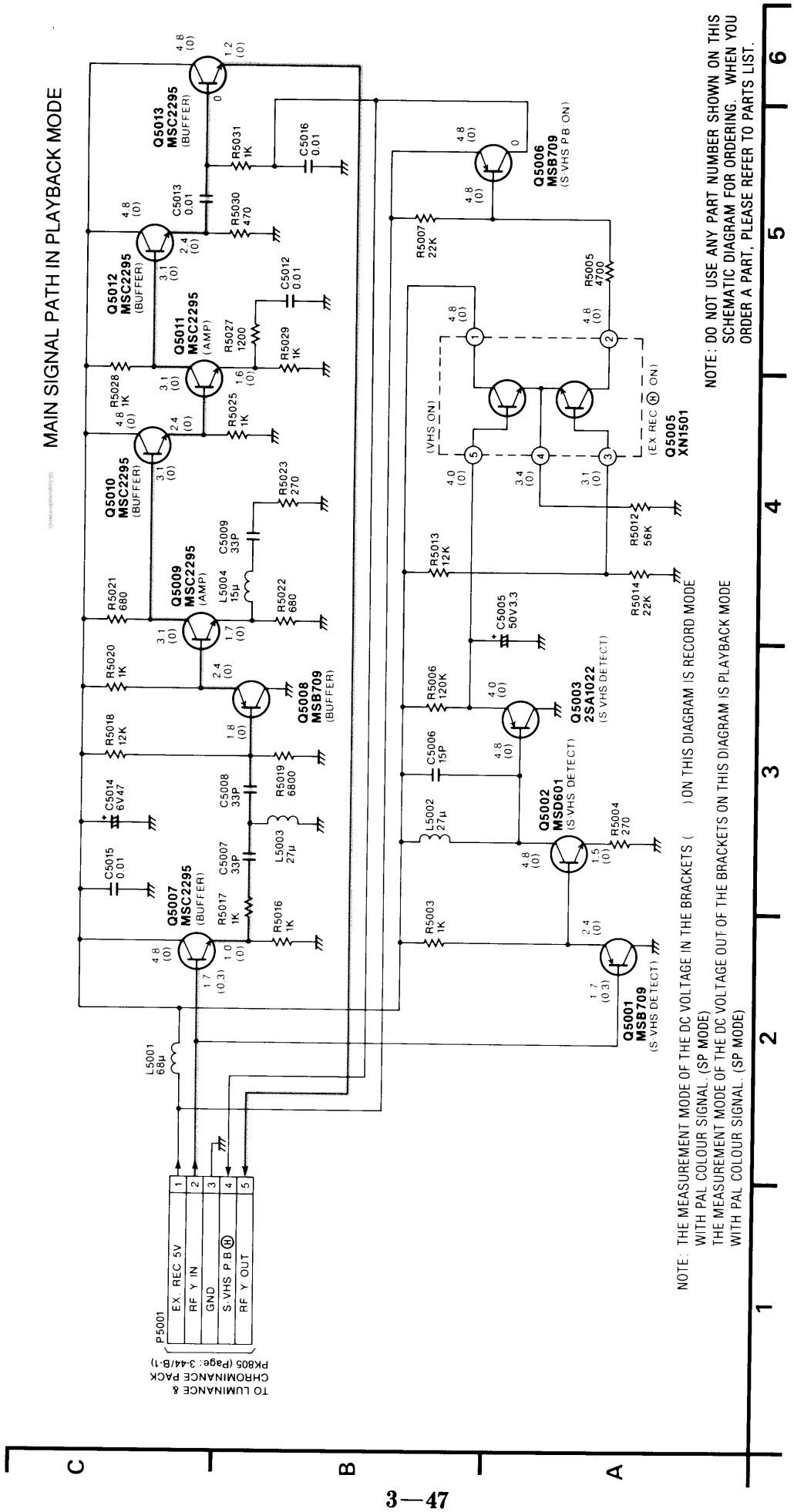


THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOR SIGNAL.

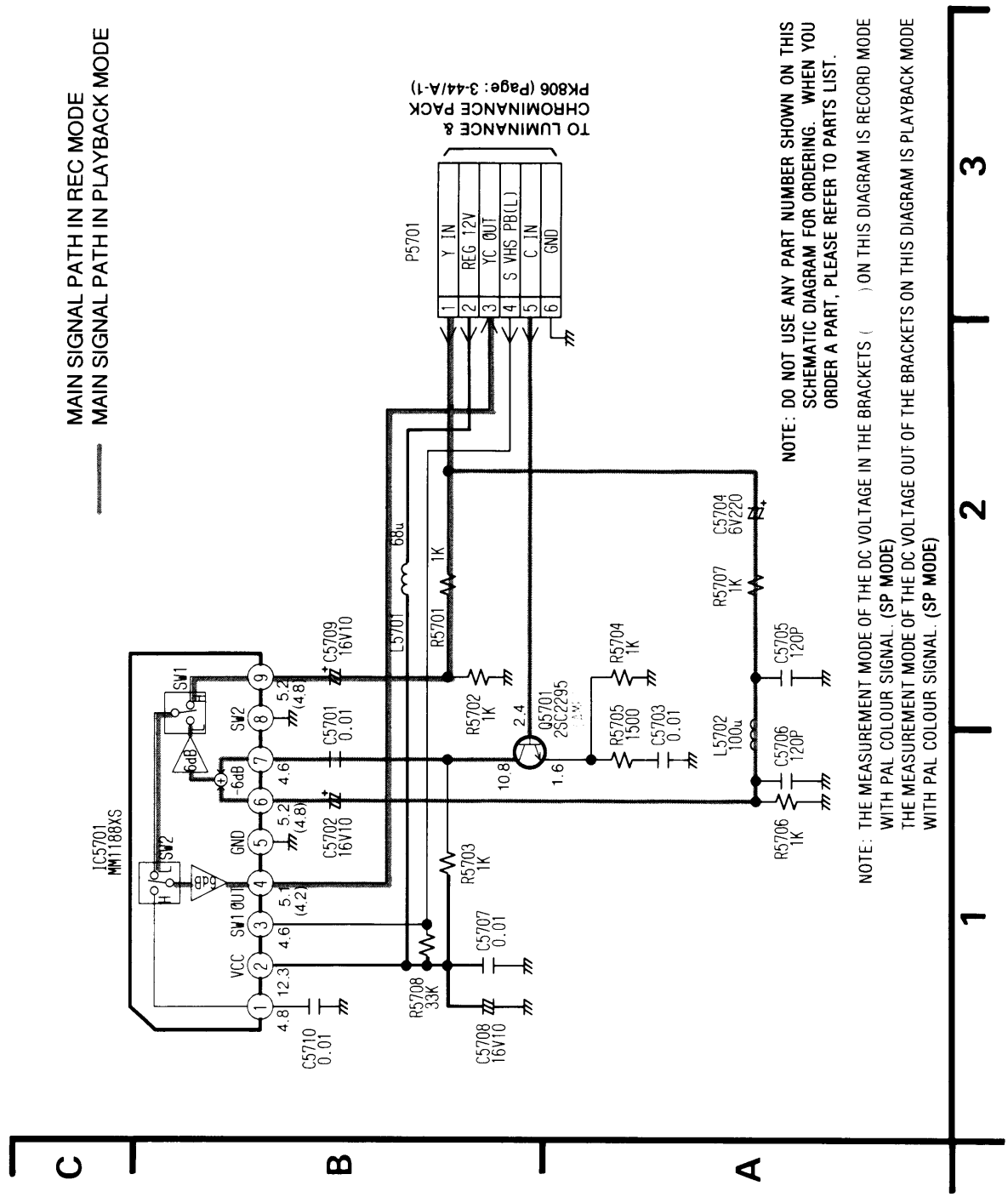
THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ON THIS DIAGRAM IS RECORD MODE

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

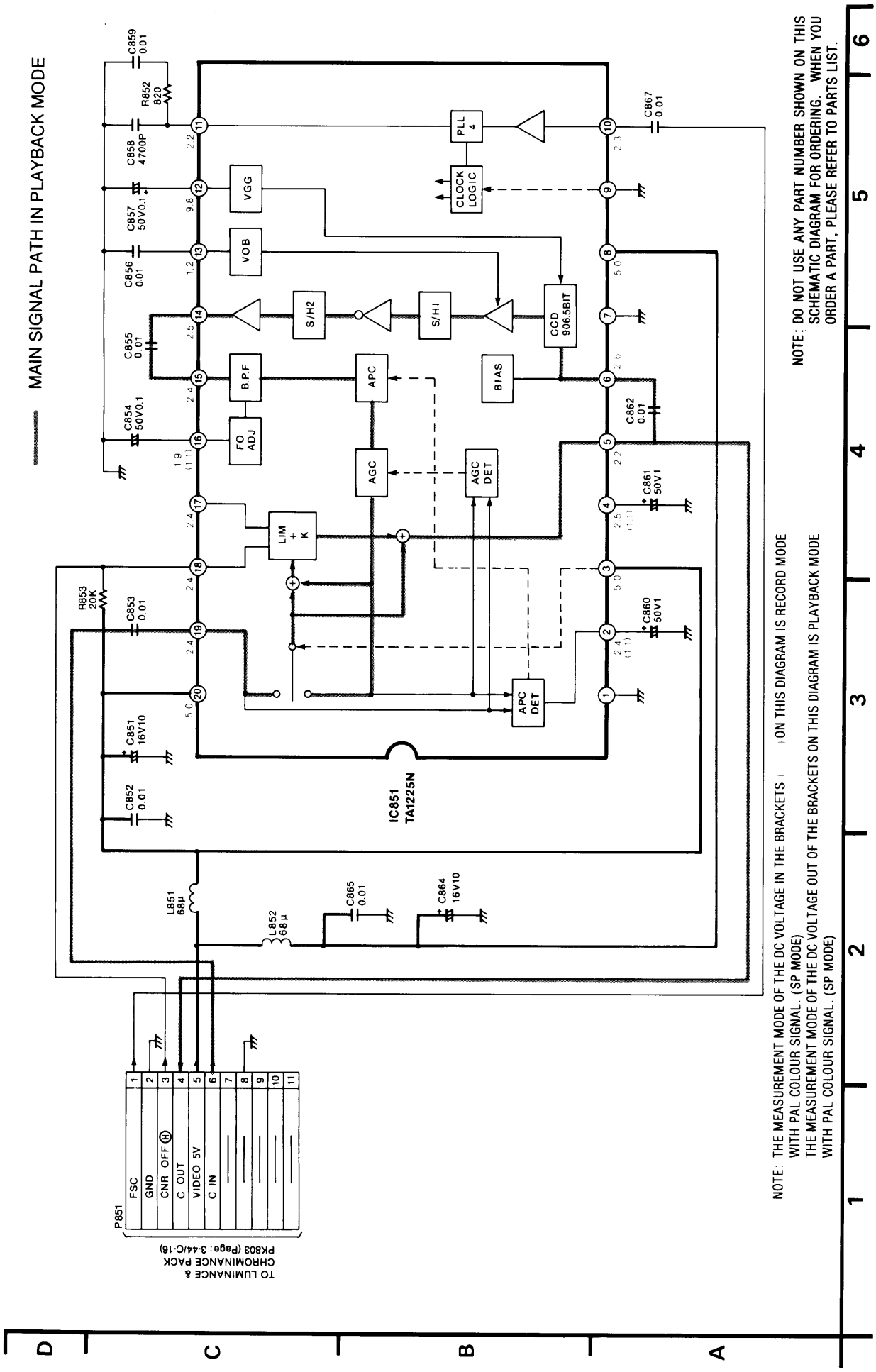
3-16. S-VHS PLAYBACK (1) PACK SCHEMATIC DIAGRAM

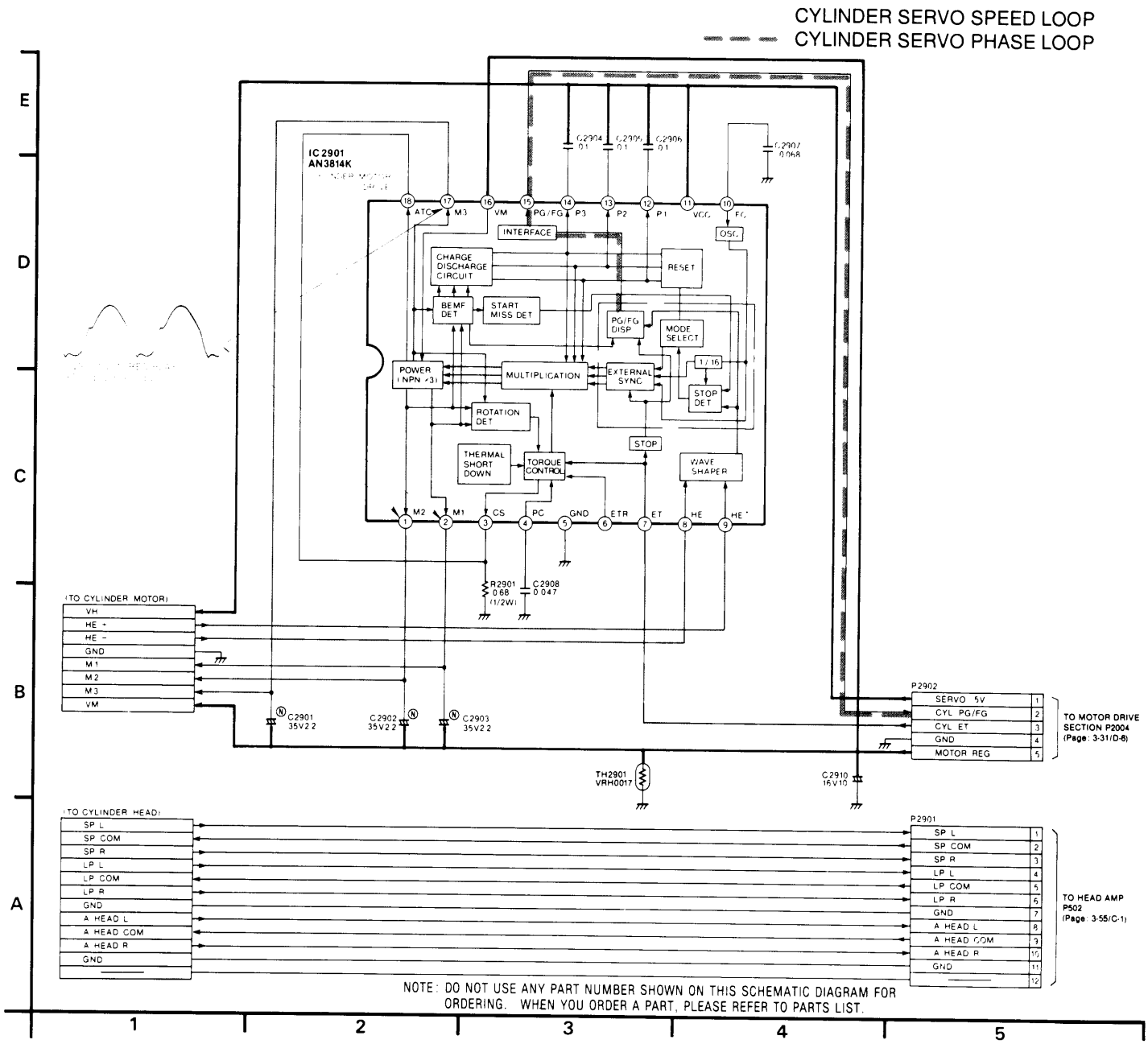

MAIN SIGNAL PATH IN PLAYBACK MODE
Q5013 MSC2295 (BUFFER)
Q5012 MSC2295 (BUFFER)
Q5011 MSC2295 (AMP)
Q5010 MSC2295 (BUFFER)
Q5009 MSC2295 (AMP)
Q5008 MSB709 (BUFFER)
Q5007 MSC2295 (BUFFER)
Q5006 MSB709 (S VHS P B ON)
Q5005 XN1501
Q5003 2SA1022 (S VHS DETECT)
Q5002 MSD601 (S VHS DETECT)
Q5001 MSB709 (S VHS DETECT)
(VHS ON)
(EX REC Ⓗ ON)
P5001
EX. REC 5V
RF Y IN
GND
S VHS P B Ⓗ
RF Y OUT
TO LUMINANCE & CHROMINANCE PACK PK805 (Page: 3-44/B-1)
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL. (SP MODE)
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL. (SP MODE)
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

3-17. S-VHS PLAYBACK (2) PACK SCHEMATIC DIAGRAM



3-18. CNR PACK SCHEMATIC DIAGRAM

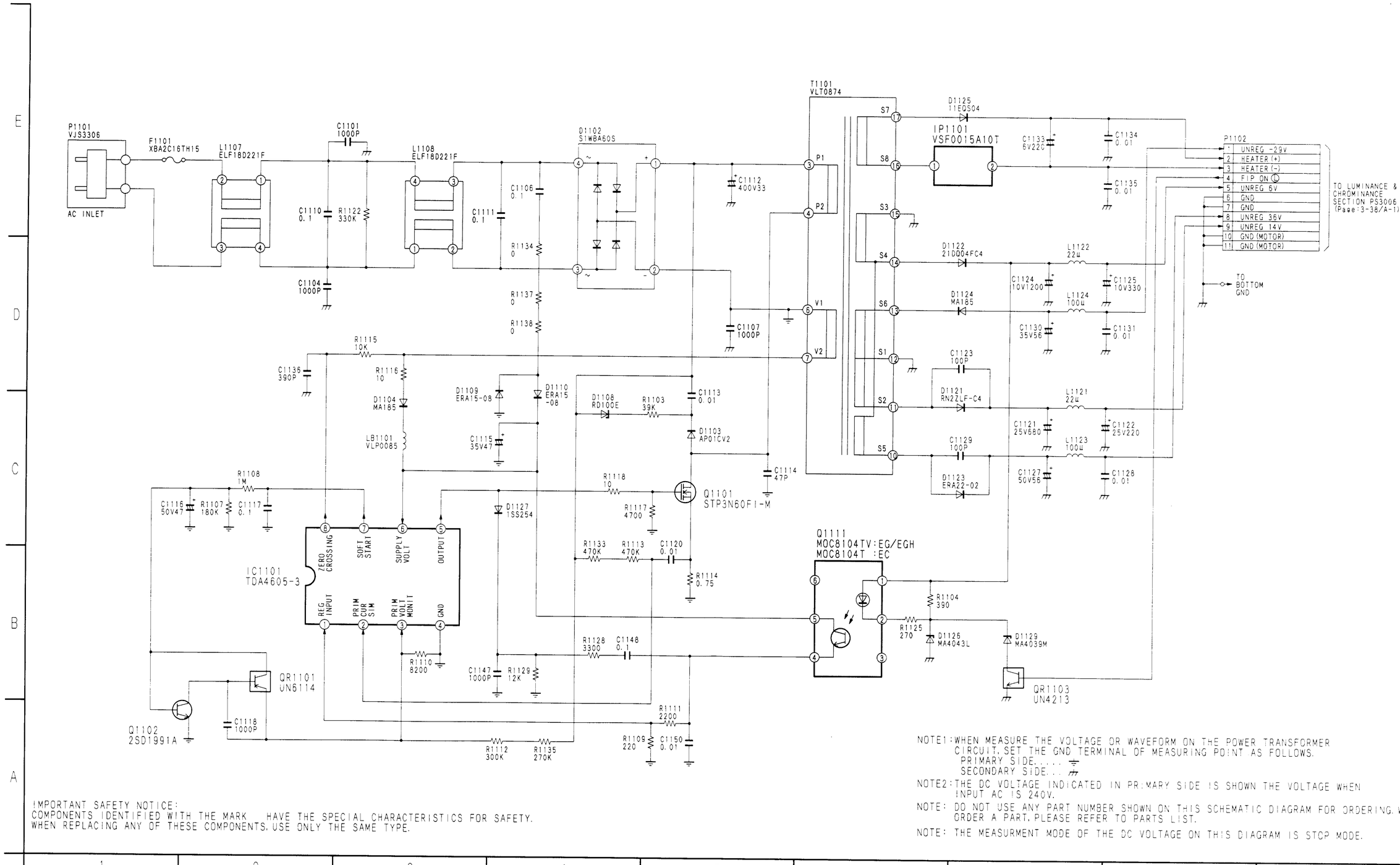




CYLINDER DRIVE ICs DC VOLTAGE CHART (SP MODE)

REF. NO. / MODE	IC2901																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18		
STOP	13.1	13.1	0.1	0.6	0	2.5	2.4	2.6	2.5	2.5	4.9	3.7	3.6	3.7	1.3	13.8	13.3	0.1		
PLAY	13.8	13.8	0.2	0.6	0	2.5	2.4	2.6	2.5	2.7	4.9	3.7	3.7	3.7	1.5	13.5	13.7	0.2		
REC	13.8	13.8	0.2	0.6	0	2.5	2.4	2.6	2.5	2.7	4.9	3.7	3.7	3.7	1.5	13.5	13.7	0.2		
F.F	13.8	13.8	0.2	0.6	0	2.5	2.4	2.6	2.5	2.7	4.9	3.7	3.7	3.7	1.5	13.5	13.7	0.2		
REW	13.8	13.8	0.2	0.6	0	2.5	2.4	2.6	2.5	2.7	4.9	3.7	3.7	3.7	1.5	13.5	13.7	0.2		

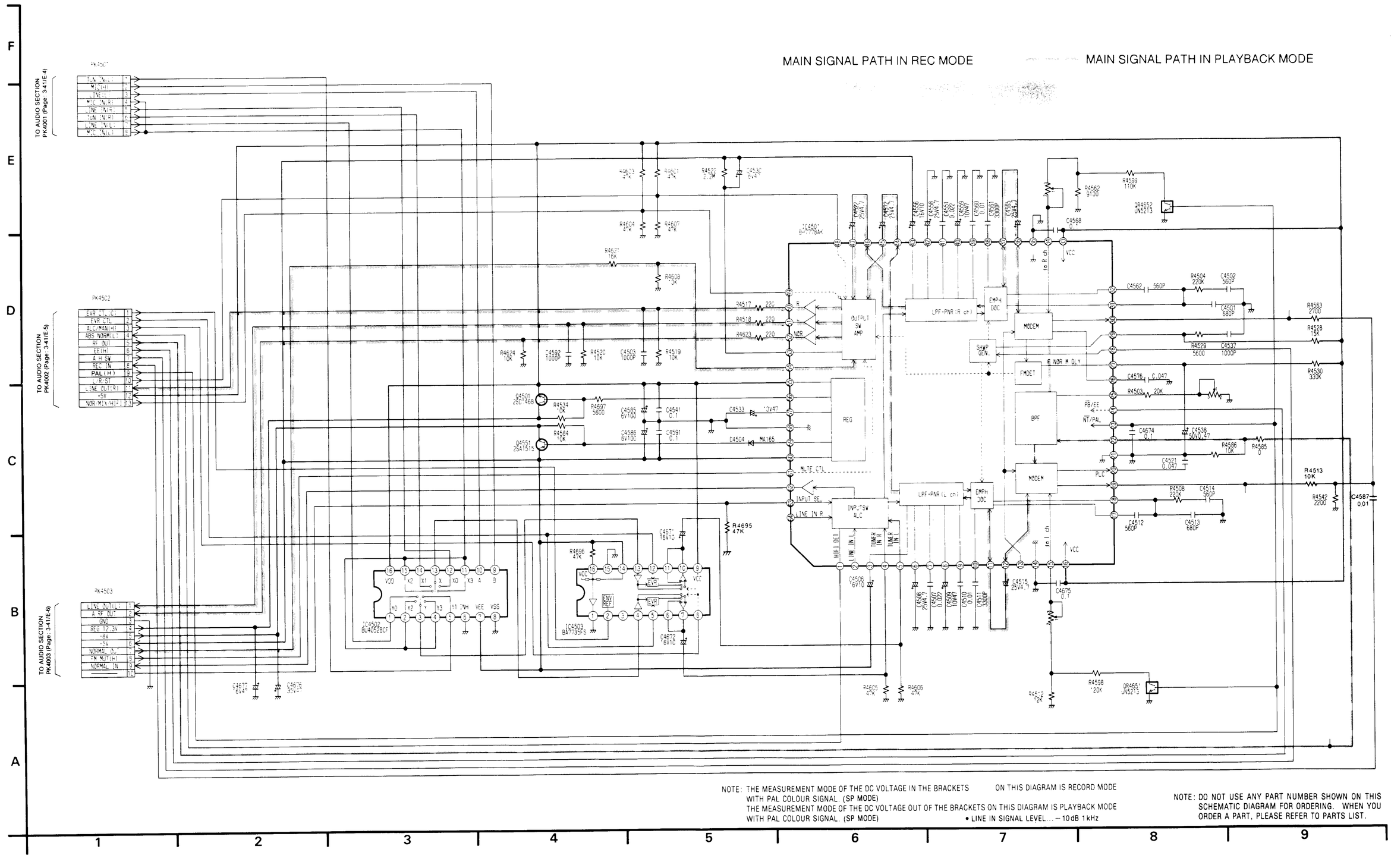
3-20. POWER SCHEMATIC DIAGRAM



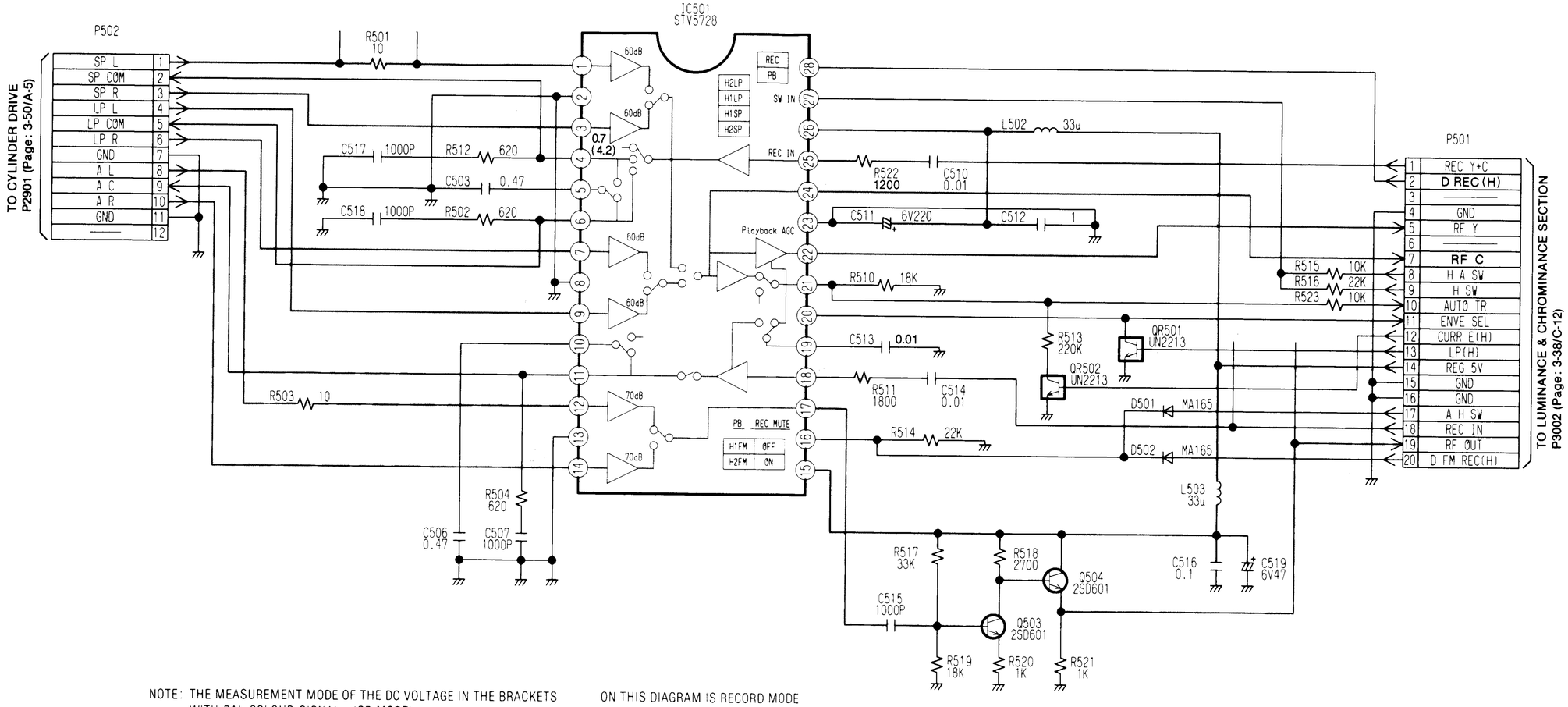
IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

NOTE1: WHEN MEASURE THE VOLTAGE OR WAVEFORM ON THE POWER TRANSFORMER CIRCUIT, SET THE GND TERMINAL OF MEASURING POINT AS FOLLOWS.
PRIMARY SIDE. . . . ⏚
SECONDARY SIDE. . . ⏚
NOTE2: THE DC VOLTAGE INDICATED IN PRIMARY SIDE IS SHOWN THE VOLTAGE WHEN INPUT AC IS 240V.
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.
NOTE: THE MEASURMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

3-21. Hi-Fi AUDIO PACK SCHEMATIC DIAGRAM


MAIN SIGNAL PATH IN REC MODE
MAIN SIGNAL PATH IN PLAYBACK MODE
TO AUDIO SECTION PK4001 (Page: 3-41/E-4)
TO AUDIO SECTION PK4002 (Page: 3-41/E-5)
TO AUDIO SECTION PK4003 (Page: 3-41/E-6)
PK4501
PK4502
PK4503
IC4501 BA4578AX
IC4502 BU4052BCF
IC4503 BA7735FS
REG
OUTPUT SW AMP
MUTE CTL
INPUT SEL
INPUT SW ALC
LINE IN R
LINE IN L
HIFI DET
TUNER IN R
TUNER IN L
LPF-PNR (R ch)
LPF-PNR (L ch)
EMPH DOC
MODEM
SHAP GEN.
FMDET
BPF
PLC
VCC
EVR
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ON THIS DIAGRAM IS RECORD MODE
WITH PAL COLOUR SIGNAL. (SP MODE)
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE
WITH PAL COLOUR SIGNAL. (SP MODE)
• LINE IN SIGNAL LEVEL... – 10dB 1kHz
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

VIDEO MAIN SIGANL PATH IN REC MODE
VIDEO MAIN SIGANL PATH IN PLAYBACK MODE
Hi-Fi AUDIO MAIN SIGNAL PATH IN REC MODE
Hi-Fi AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE



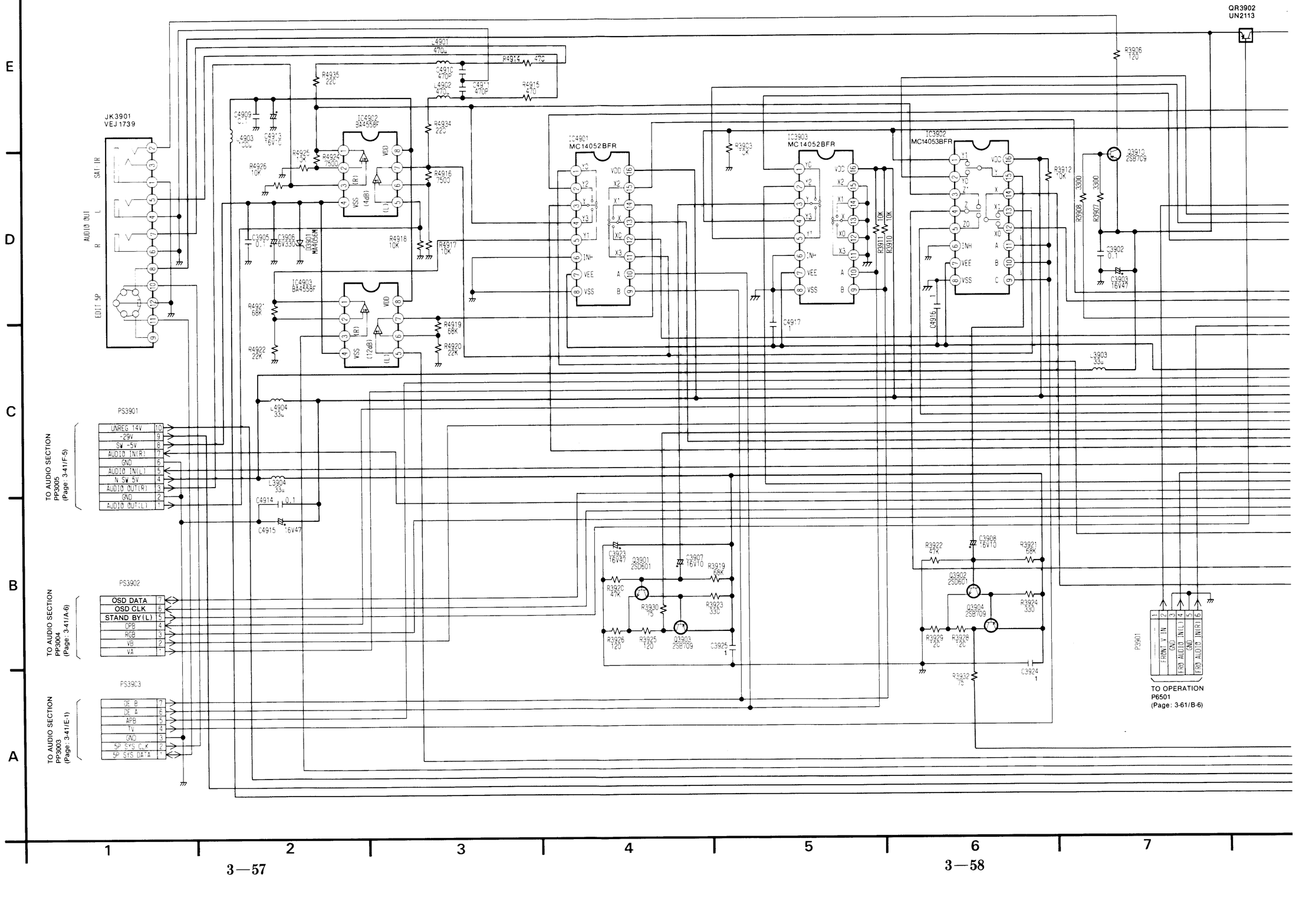
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ON THIS DIAGRAM IS RECORD MODE
WITH PAL COLOUR SIGNAL. (SP MODE)
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE
WITH PAL COLOUR SIGNAL. (SP MODE)

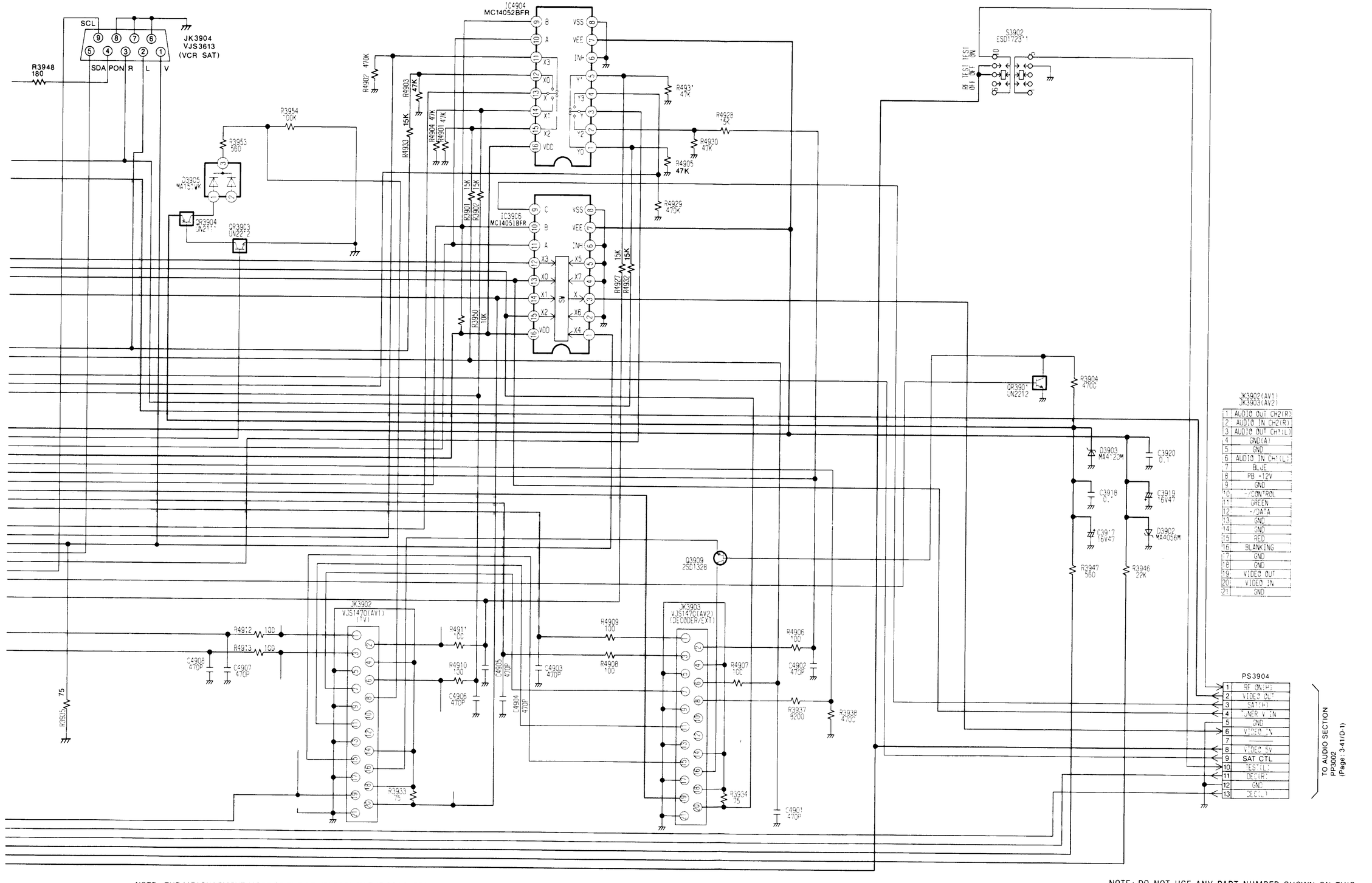
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

3-23. INPUT/OUTPUT PACK SCHEMATIC DIAGRAM

VIDEO MAIN SIGNAL PATH IN REC MODE
VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE

AUDIO MAIN SIGNAL PATH IN REC MODE
AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE



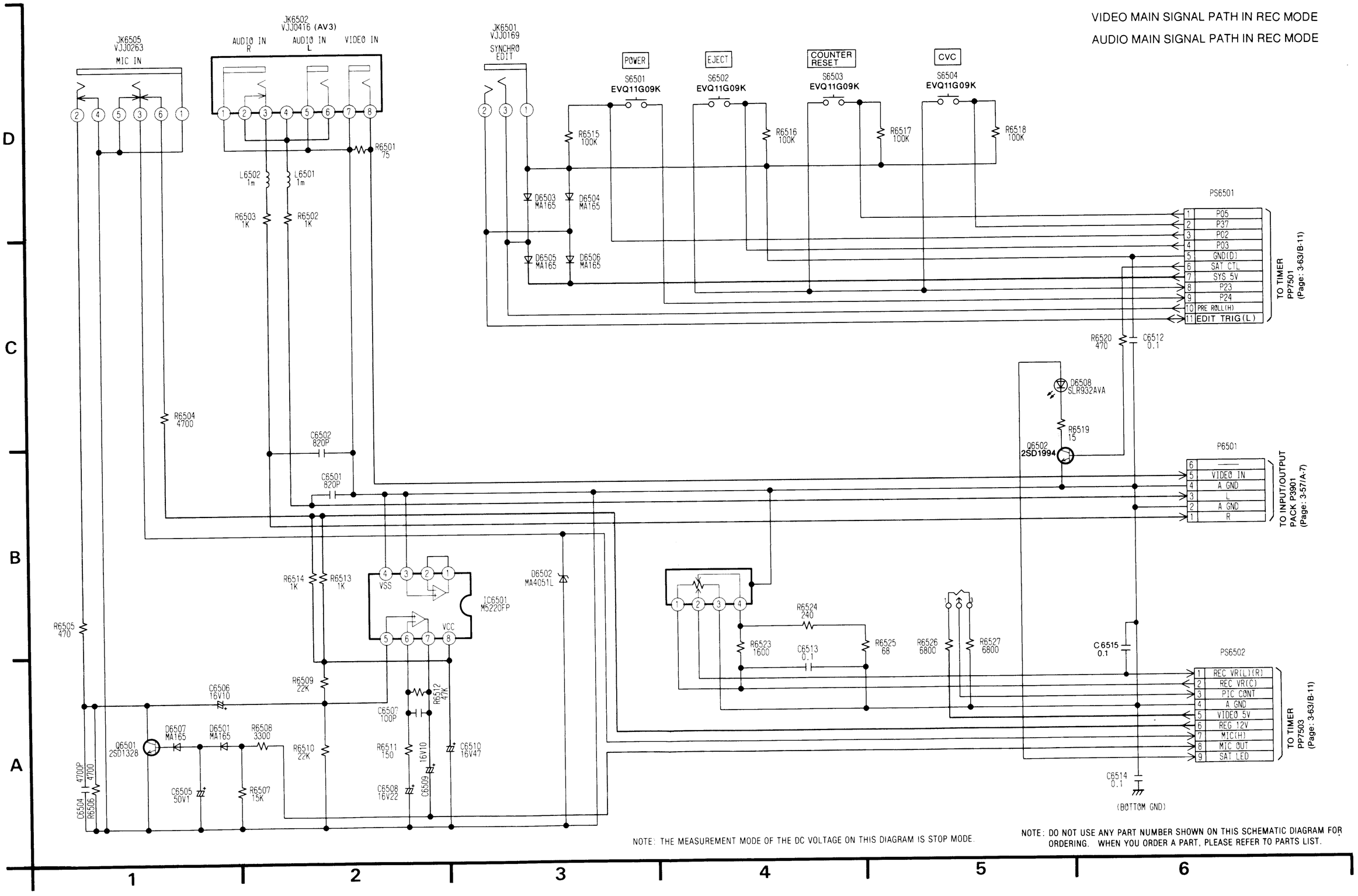


NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL. (SP MODE)

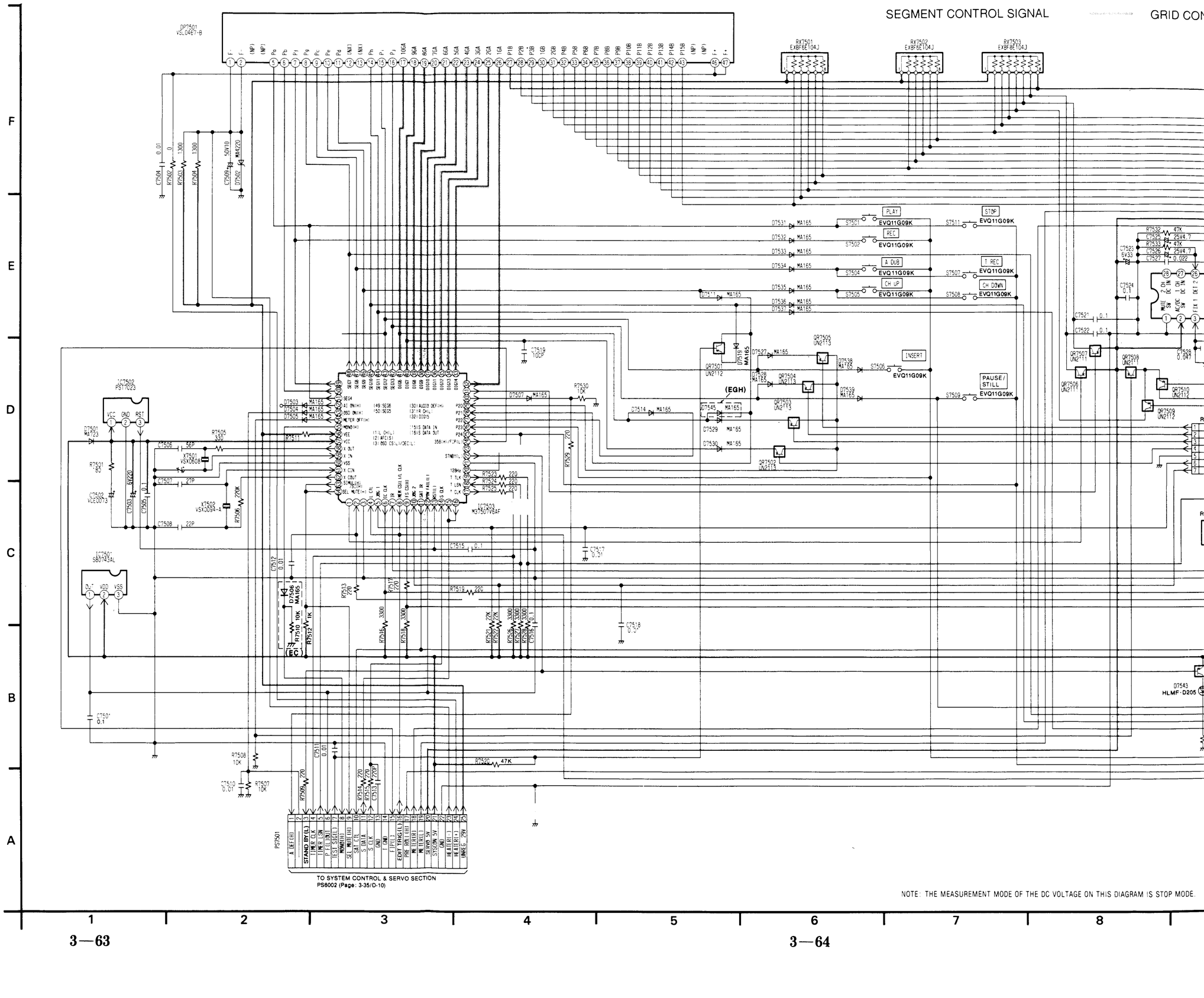
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL. (SP MODE)

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

3-24. OPERATION SCHEMATIC DIAGRAM



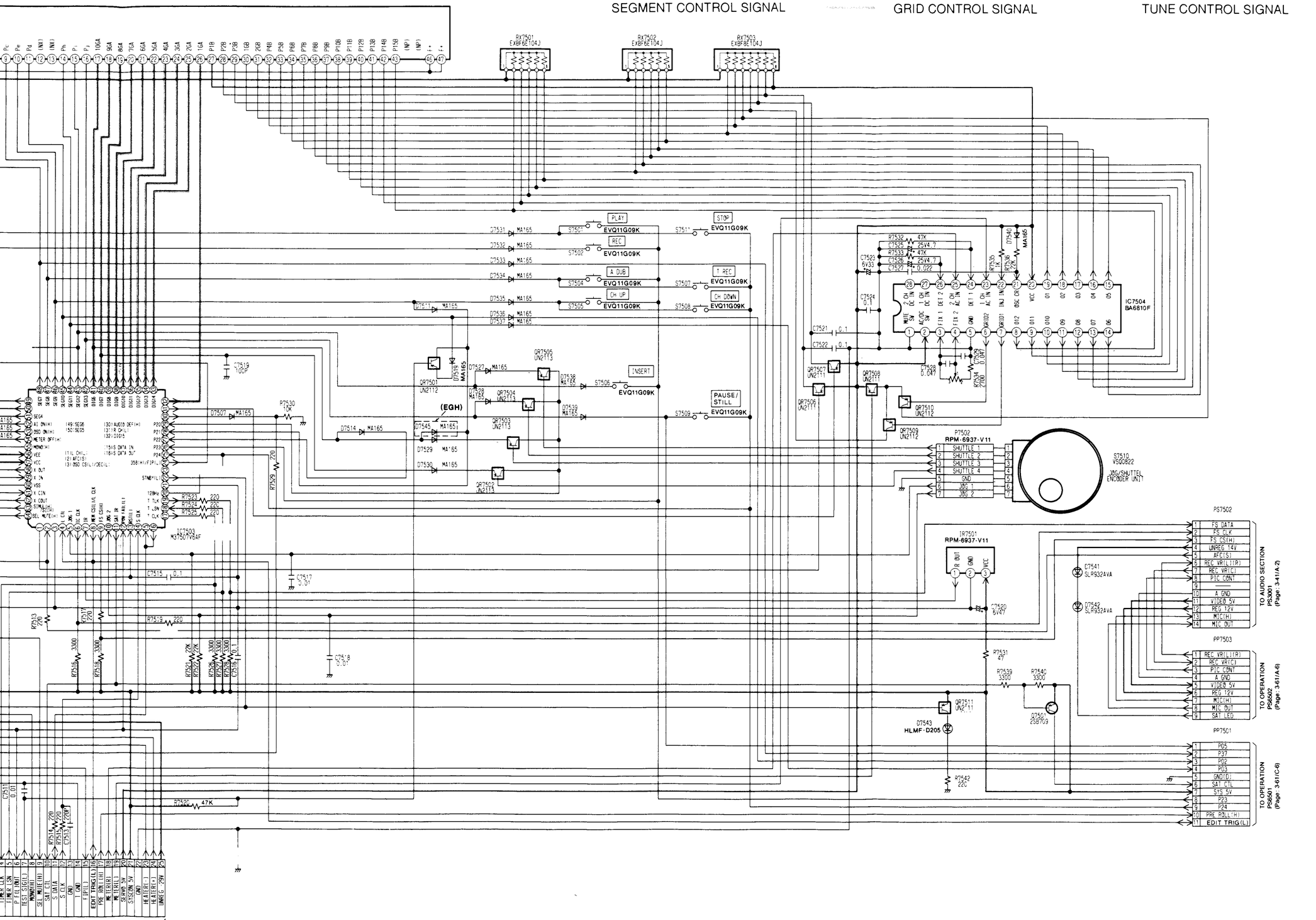
3-25. TIMER SCHEMATIC DIAGRAM


SEGMENT CONTROL SIGNAL
GRID CON
TO SYSTEM CONTROL & SERVO SECTION
PS8002 (Page: 3-35/D-10)
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

SEGMENT CONTROL SIGNAL

GRID CONTROL SIGNAL

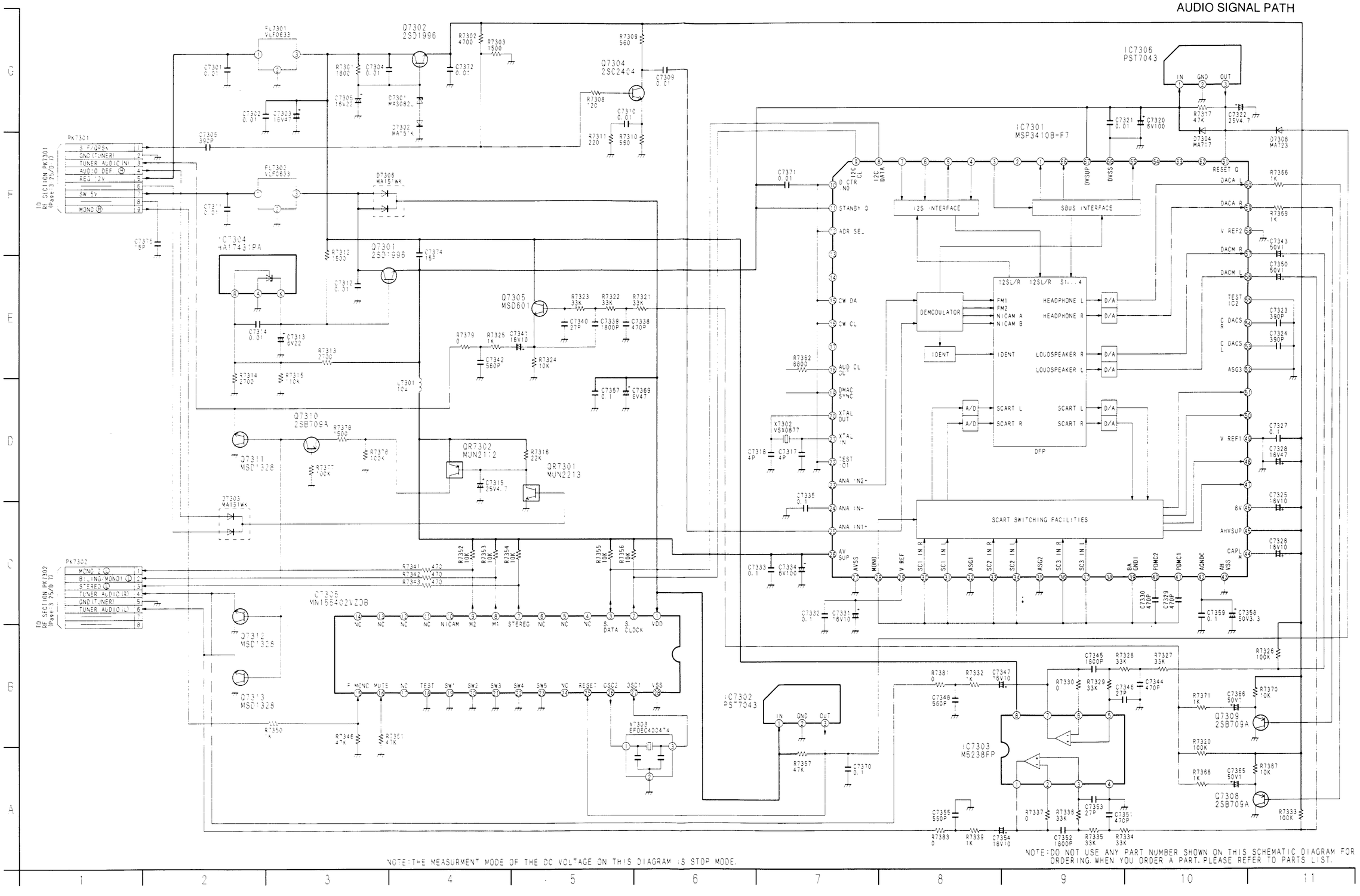
TUNE CONTROL SIGNAL



NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

3-26. NICAM DECODER PACK SCHEMATIC DIAGRAM (NV-HD670EC)



TV SYSTEM S

IC7305	
SW1	SW
L	L
H	L
*	H

*: DO NOT C

FM-MONO MO

IC7305
SW3
L
H

SIF INPUT SE

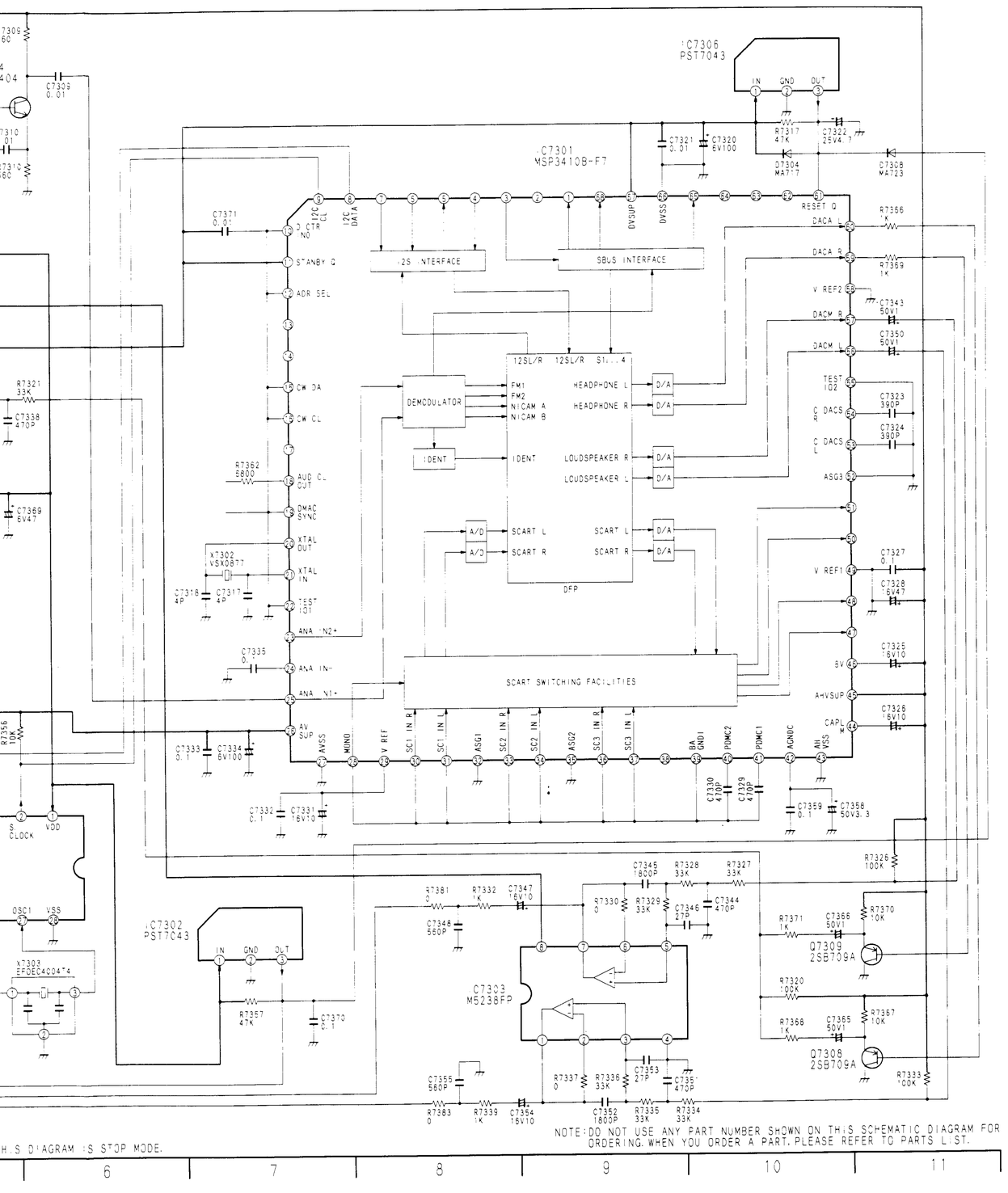
IC7305
SW4
L
H

AUDIO OUTP

INPUT TV SYSTEM
B/G
I
M

Note: When th

AUDIO SIGNAL PATH



H.S DIAGRAM IS STOP MODE.

NOTE:DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

6 7 8 9 10 11

TV SYSTEM SELECT

IC7305		TV SYSTEM	SOUND MODULATION
SW1	SW2		
L	L	B/G	FM-MONO/NICAM GERMAN MULTIPLEX
H	L	I	FM-MONO/NICAM
*	H	M	FM-MONO

* : DO NOT CARE

FM-MONO MODE SELECT

IC7305 SW3	FM-MONO MODE	FM-MONO SOURCE
L	INT	SIF (IF INPUT1, IF INPUT2)
H	EXT	AUDIO MULTI (MONO IN)

SIF INPUT SELECT

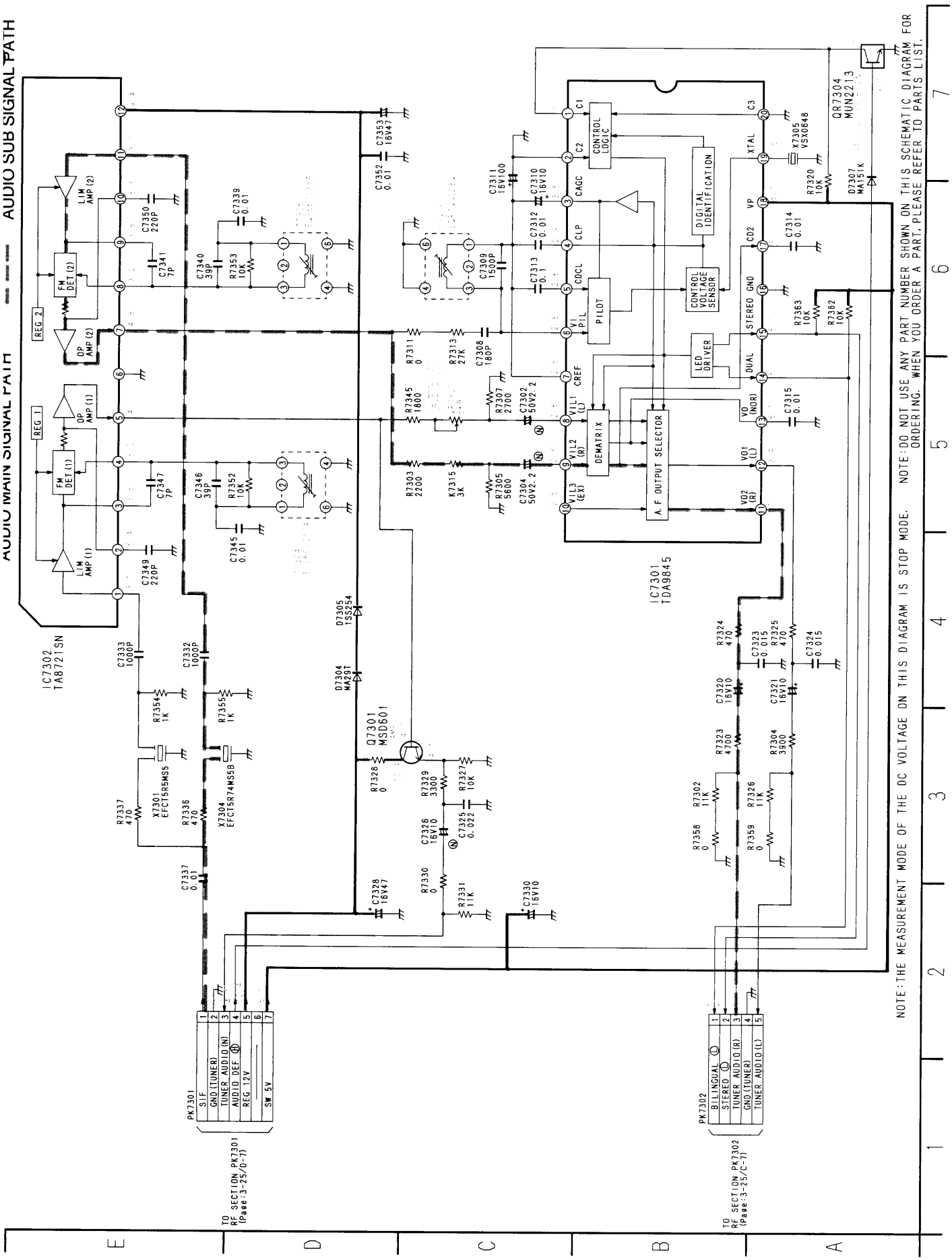
IC7305 SW4	SIF INPUT
L	IF INPUT 1
H	IF INPUT 2

AUDIO OUTPUT SELECT

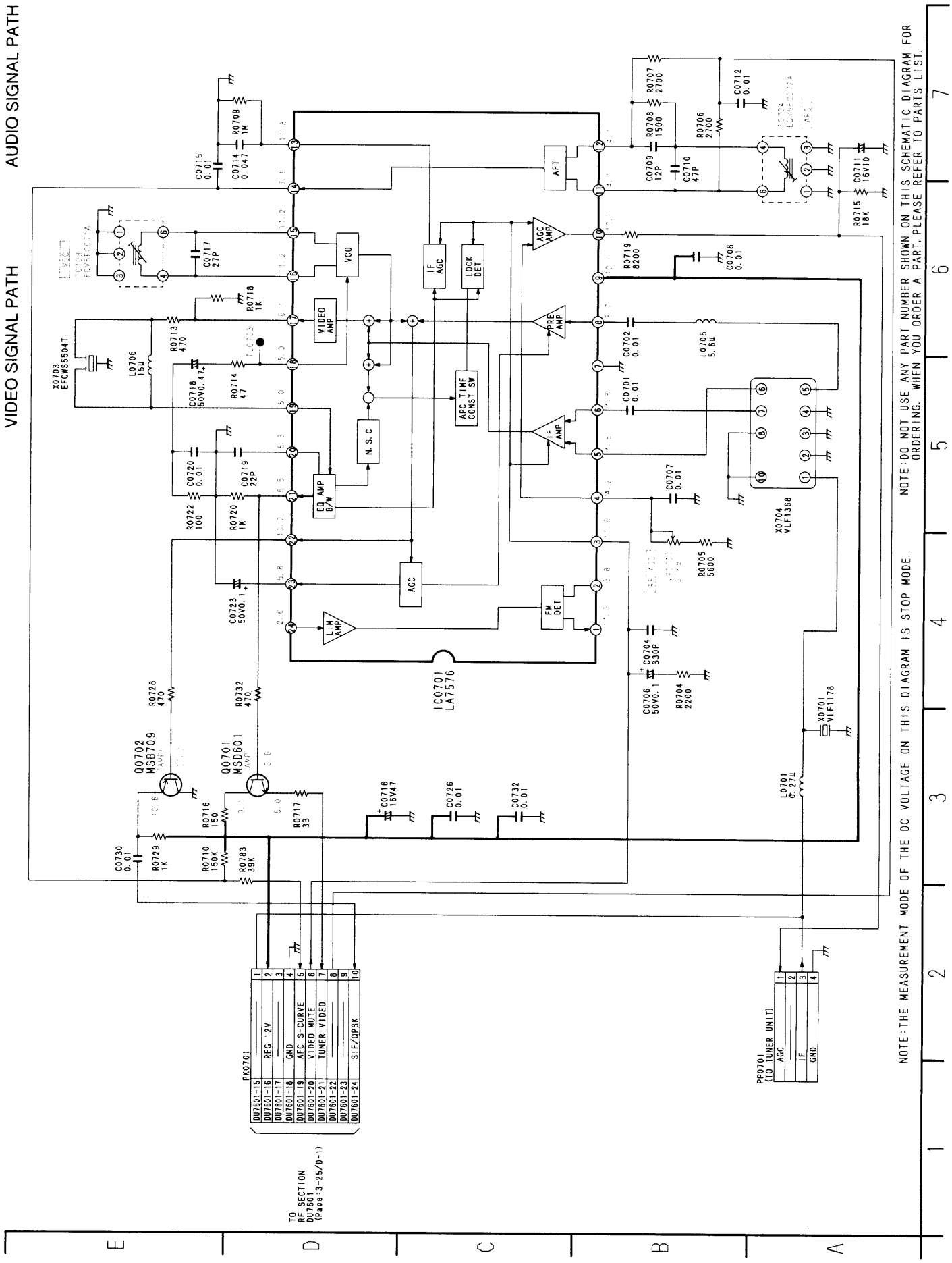
INPUT TV SYSTEM	SOUND MODULATION	FM-MONO MODE	MAIN OUTPUT		SUB OUTPUT	
			INPUT SOURCE	MATRIX	INPUT SOURCE	MATRIX
B/G	MONO	INT	IF INPUT 1/2 (FM)	MONAURAL	IF INPUT 1/2 (FM)	MONAURAL
		EXT	MONO IN	MONAURAL	MONO IN	MONAURAL
	NICAM STEREO	INT	IF INPUT 1/2 (NICAM)	STEREO	IF INPUT 1/2 (FM)	MONAURAL
		EXT	IF INPUT 1/2 (NICAM)	STEREO	MONO IN	MONAURAL
	NICAM M1/DATA	INT	IF INPUT 1/2 (NICAM)	MONAURAL	IF INPUT 1/2 (FM)	MONAURAL
		EXT	IF INPUT 1/2 (NICAM)	MONAURAL	MONO IN	MONAURAL
	NICAM M1/M2	INT	IF INPUT 1/2 (NICAM)	STEREO	IF INPUT 1/2 (FM)	MONAURAL
		EXT	IF INPUT 1/2 (NICAM)	STEREO	MONO IN	MONAURAL
	NICAM DATA	INT	IF INPUT 1/2 (FM)	MONAURAL	IF INPUT 1/2 (FM)	MONAURAL
		EXT	MONO IN	MONAURAL	MONO IN	MONAURAL
	STEREO	INT	IF INPUT 1/2 (FM)	STEREO	IF INPUT 1/2 (FM)	MONAURAL
	BILINGUAL	INT	IF INPUT 1/2 (FM)	STEREO	IF INPUT 1/2 (FM)	MONAURAL
I	MONO	INT	IF INPUT 1/2 (FM)	MONAURAL	IF INPUT 1/2 (FM)	MONAURAL
		EXT	MONO IN	MONAURAL	MONO IN	MONAURAL
	NICAM STEREO	INT	IF INPUT 1/2 (NICAM)	STEREO	IF INPUT 1/2 (FM)	MONAURAL
		EXT	IF INPUT 1/2 (NICAM)	STEREO	MONO IN	MONAURAL
	NICAM M1/DATA	INT	IF INPUT 1/2 (NICAM)	MONAURAL	IF INPUT 1/2 (FM)	MONAURAL
		EXT	IF INPUT 1/2 (NICAM)	MONAURAL	MONO IN	MONAURAL
	NICAM M1/M2	INT	IF INPUT 1/2 (NICAM)	STEREO	IF INPUT 1/2 (FM)	MONAURAL
		EXT	IF INPUT 1/2 (NICAM)	STEREO	MONO IN	MONAURAL
	NICAM DATA	INT	IF IMPUT 1/2 (FM)	MONAURAL	IF INPUT 1/2 (FM)	MONAURAL
		EXT	MONO IN	MONAURAL	MONO IN	MONAURAL
M	MONO	INT	IFINPUT 1/2 (FM)	MONAURAL	IF INPUT 1/2 (FM)	MONAURAL

Note: When the IC7305-15 (F MONO) is high, both the MAIN OUTPUT and the SUB OUTPUT apply the FM-MONO audio.

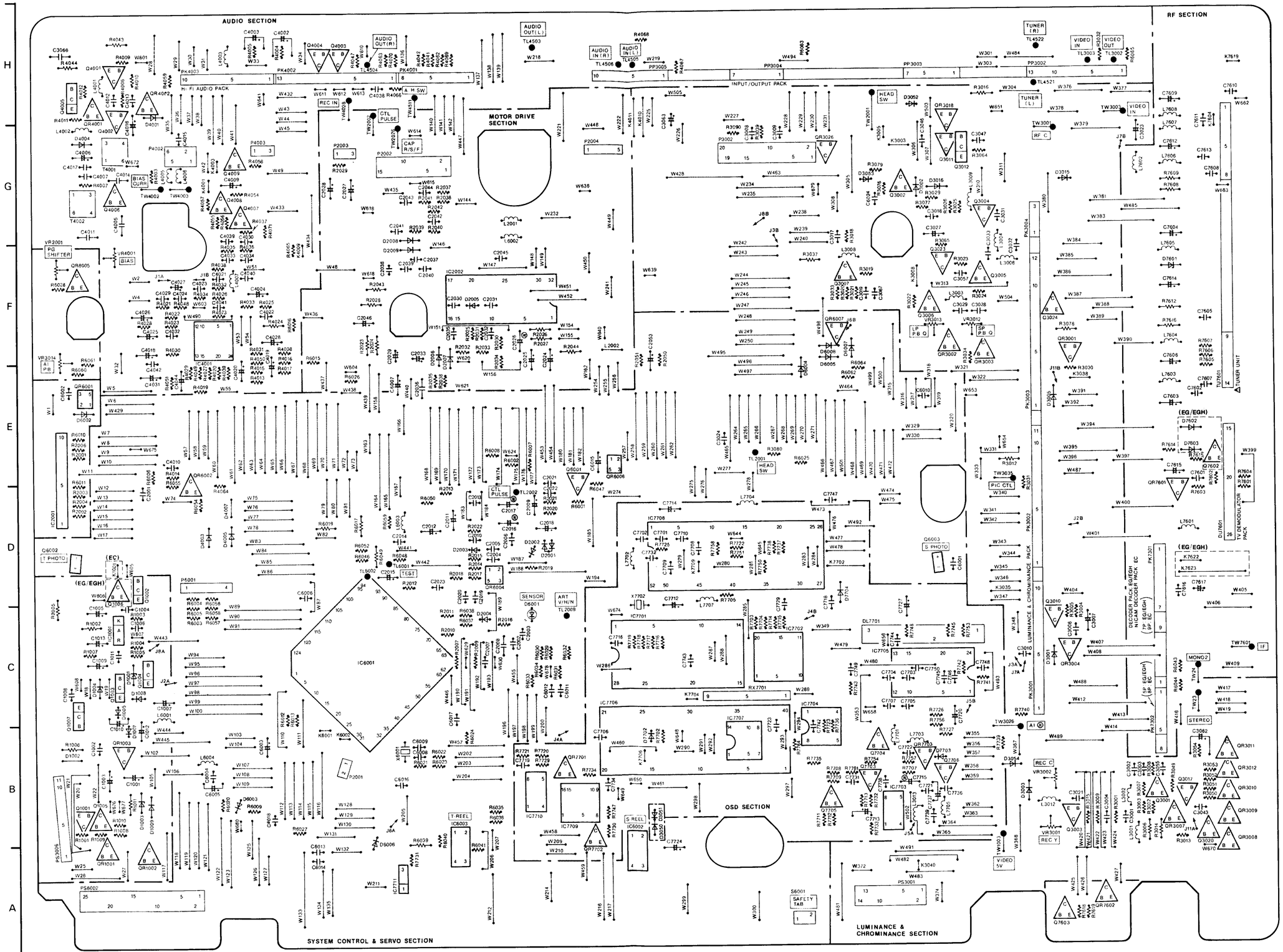
3-27. DECODER PACK SCHEMATIC DIAGRAM (NV-HD670EG/EGH)


AUDIO MAIN SIGNAL PATH
AUDIO SUB SIGNAL PATH
IC7302 TA8721SN
IC7301 TDA9845
Q7301 MSD601
PK7301
PK7302
TO RF SECTION PK7301 (Page:3-25/D-7)
TO RF SECTION PK7302 (Page:3-25/C-7)
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

3-28. TV DEMODULATOR PACK SCHEMATIC DIAGRAM



3-29. MAIN C.B.A. (VEP06B36XQ: NV-HD670EG/EGH) (VEP06B36XR: NV-HD670EC)



MAIN C.B.A.

Transistor

Q1001	B-1
Q1002	C-2
Q1003	C-1
Q1004	C-1
Q1005	B-1
Q1006	D-1
Q1007	C-1
Q3001	B-10
Q3002	G-8
Q3003	B-9
Q3004	G-9
Q3005	F-8
Q3006	F-8
Q3007	F-7
Q3010	C-9
Q3011	G-8
Q3012	G-8
Q3017	B-10
Q3020	B-10
Q3023	F-8
Q3024	F-9
Q4001	H-1
Q4002	G-1
Q4003	H-3
Q4004	H-3
Q4005	H-1
Q4006	G-1
Q4007	G-2
Q4008	G-2
Q4009	G-2
Q6001	E-5
Q6002	D-1
Q6003	D-8
Q7602	E-10
Q7603	A-9
Q7703	B-8
Q7704	B-8
Q7705	B-7
Q7706	B-8

Transistor & Resistor

QR1001	A-1
QR1002	A-2
QR1003	B-1
QR3001	F-9
QR3002	F-8
QR3003	E-9
QR3004	C-9
QR3007	B-10
QR3008	A-11
QR3009	B-11
QR3010	B-11
QR3011	B-11
QR3012	B-11
QR3018	H-8
QR3026	G-7
QR4001	H-1
QR4002	H-2
QR6001	E-1
QR6002	E-2
QR6004	D-4
QR6005	F-1
QR6006	E-6
QR6007	F-7
QR7601	D-10
QR7602	A-9
QR7701	B-5
QR7702	A-5
QR7703	B-8

Integrated Circuit

IC1001	C-1
IC2001	D-1
IC2002	F-4
IC4001	F-2
IC6001	C-3
IC6002	B-6
IC6003	B-4
IC7701	C-6
IC7702	C-7
IC7703	B-8
IC7704	C-7
IC7705	C-8
IC7706	C-5
IC7707	C-6
IC7708	D-6
IC7709	B-5
IC7710	B-5
IC7711	A-4

Test Point

TL2001	E-7
TL2002	D-5
TL2009	C-5
TL3002	H-10
TL3003	H-9
TL4503	H-5
TL4504	H-3
TL4505	H-6
TL4506	H-5
TL4521	H-9
TL4522	H-9
TL6001	D-4
TL6002	D-3
TW23	C-10
TW24	C-10
TW1003	A-9
TW2001	G-8
TW2002	G-3
TW2026	G-4
TW3001	G-9
TW3003	H-10
TW3026	B-9
TW3035	E-9
TW4002	G-2
TW4003	G-2
TW4028	H-3
TW4511	H-4
TW7601	C-11

Adjustment

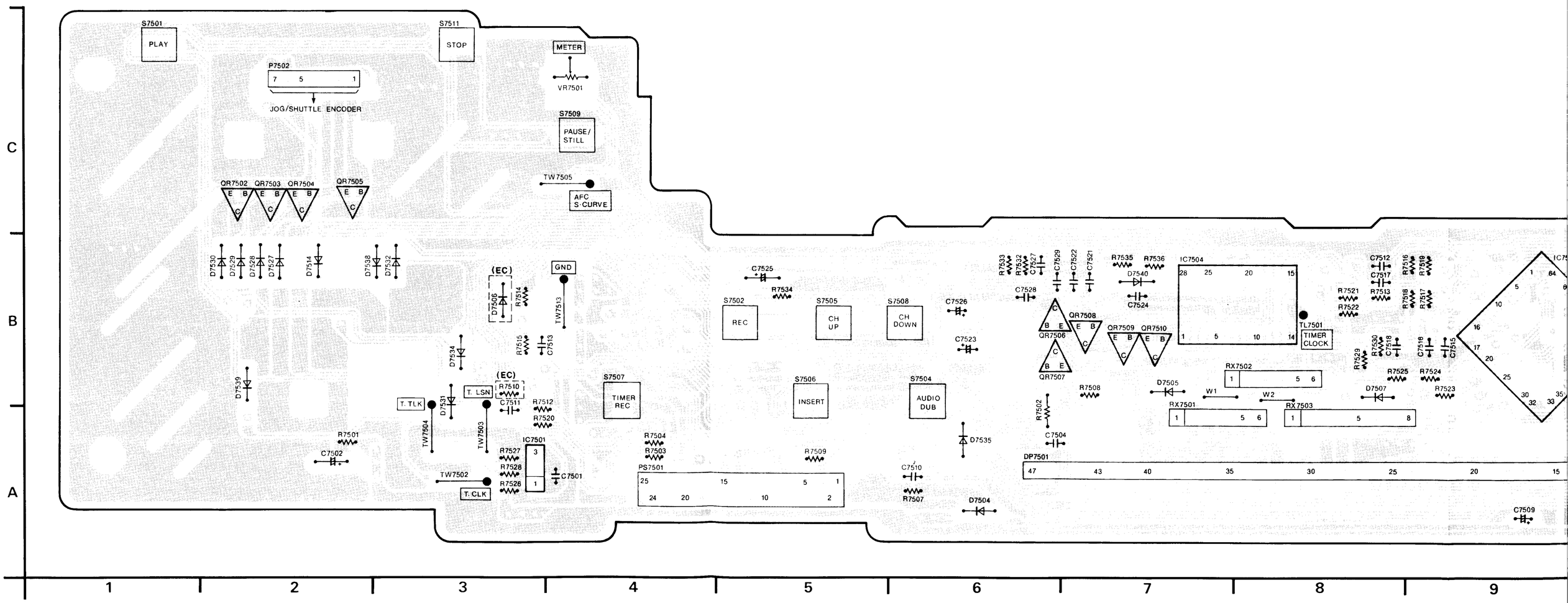
VR2001	F-1
VR3001	B-9
VR3002	B-9
VR3012	F-8
VR3013	F-8
VR3014	F-1
VR4001	F-1

Connector

DU7601	D-11
P2001	B-3
P2002	G-4
P2003	G-3
P2004	G-5
P3002	G-6
P4002	G-2
P4003	G-2
P6001	D-2
PK3001	C-9
PK3002	D-9
PK3003	E-9
PK3004	G-9
PK4001	H-4
PK4002	H-3
PK4003	H-2
PK7301	D-10
PK7302	B-10
PP3002	H-9
PP3003	H-8
PP3004	H-7
PP3005	H-6
PS3001	A-8
PS3006	A-1
PS6002	A-1
TU7601	E-11

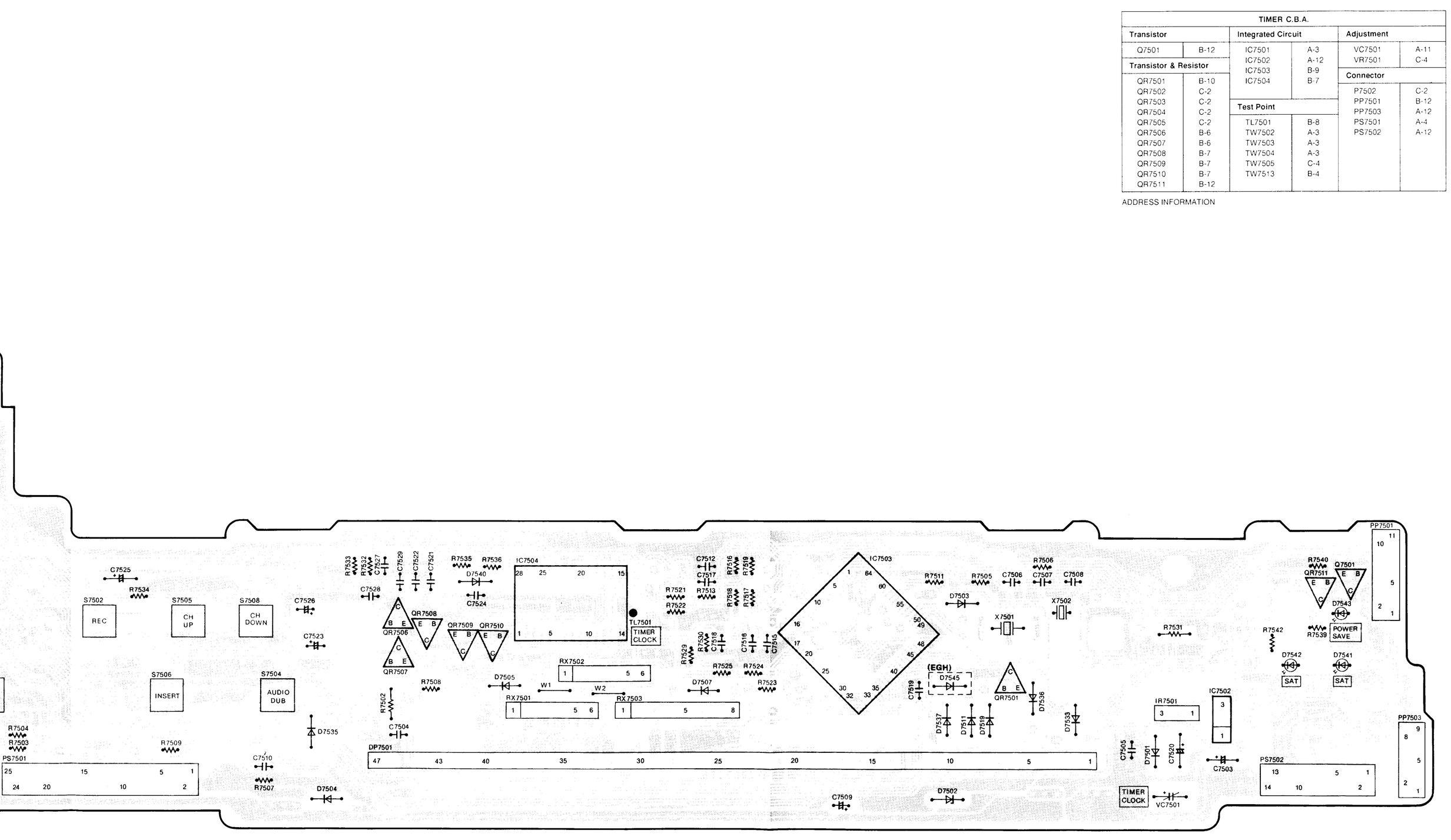
ADDRESS INFORMATION

3-30. TIMER C.B.A. (VEP07935H: NV-HD670EG) (VEP07935J: NV-HD670EGH) (VEP07935K: NV-HD670EC)



TIMER C.B.A.					
Transistor		**Integrated Circuit**		**Adjustment**	
Q7501	B-12	IC7501	A-3	VC7501	A-11
Transistor & Resistor		IC7502	A-12	VR7501	C-4
QR7501	B-10	IC7503	B-9	**Connector**	
QR7502	C-2	IC7504	B-7	P7502	C-2
QR7503	C-2	**Test Point**		PP7501	B-12
QR7504	C-2	TL7501	B-8	PP7503	A-12
QR7505	C-2	TW7502	A-3	PS7501	A-4
QR7506	B-6	TW7503	A-3	PS7502	A-12
QR7507	B-6	TW7504	A-3		
QR7508	B-7	TW7505	C-4		
QR7509	B-7	TW7513	B-4		
QR7510	B-7				
QR7511	B-12				

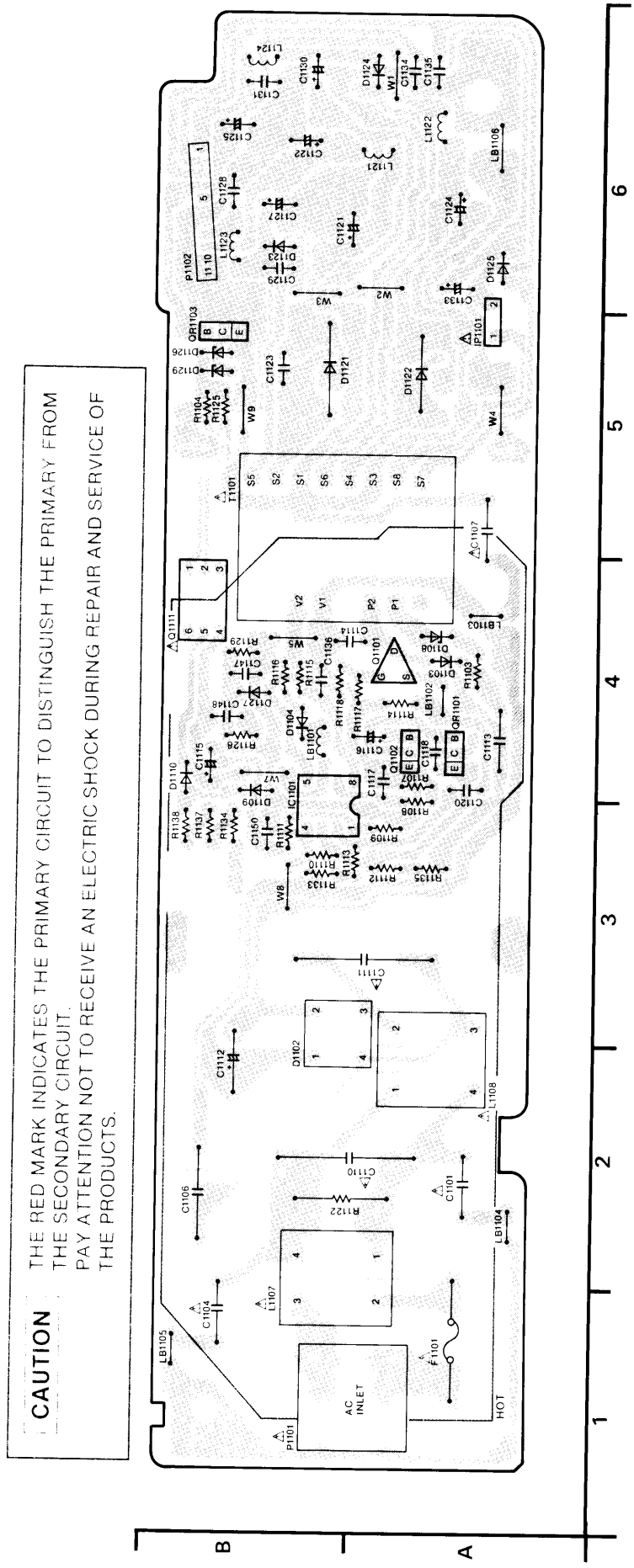
ADDRESS INFORMATION



3-31. POWER C.B.A. (VEP01763A: NV-HD670EG/EGH) (VEP01763B: NV-HD670EC)

POWER C.B.A.	
Transistor	
Q1101	A-4
Q1102	A-4
Q1111	B-4
Transistor & Resistor	
QR1101	A-4
QR1103	B-5
Integrated Circuit	
IC1101	B-3
Connector	
P1101	B-1
P1102	B-6

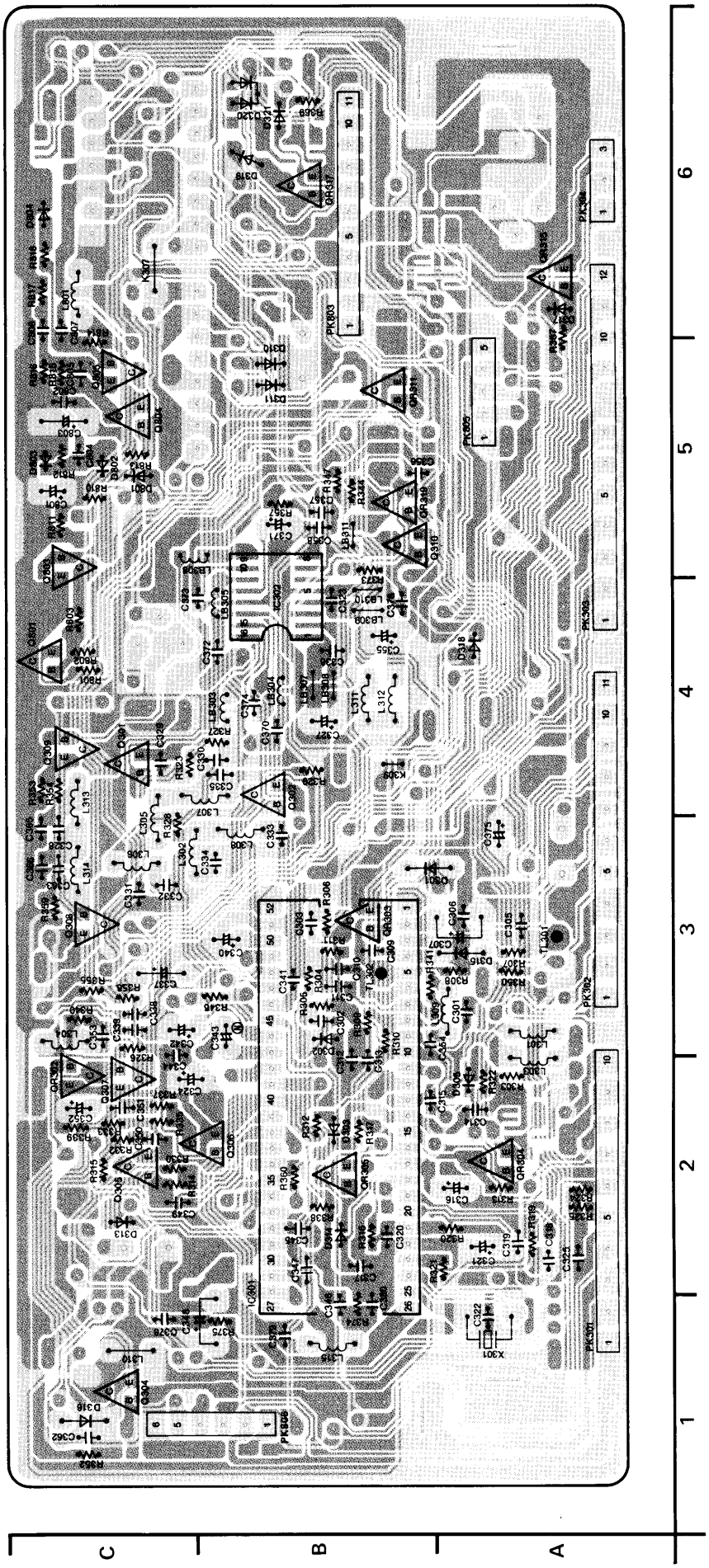
ADDRESS INFORMATION



3-32. LUMINANCE & CHROMINANCE PACK C.B.A. (VEP03D95G)

LUMINANCE & CHROMINANCE PACK C.B.A.					
Transistor		**Transistor & Resistor**		**Test Point**	
Q301	C-4	QR302	C-2	TL301	A-3
Q302	B-4	QR303	B-3	TL302	B-3
Q304	C-1	QR304	A-2	**Connector**	
Q305	C-2	QR305	B-2		
Q306	B-2	QR311	B-5	PK301	A-1
Q307	C-2	QR315	A-6	PK302	A-3
Q308	C-3	QR317	B-6	PK303	A-4
Q309	C-4	QR319	B-5	PK304	A-6
Q310	B-5			PK803	B-6
Q801	C-4	**Integrated Circuit**		PK805	A-5
Q803	C-4	IC301	B-1	PK806	B-1
Q804	C-5	IC302	B-4		
Q805	C-5				

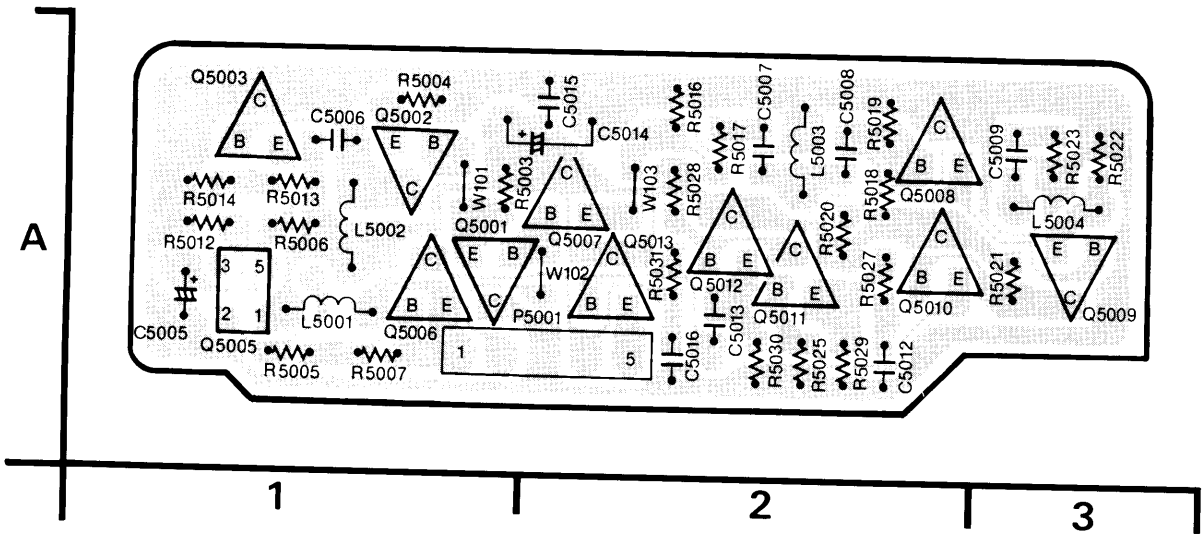
ADDRESS INFORMATION



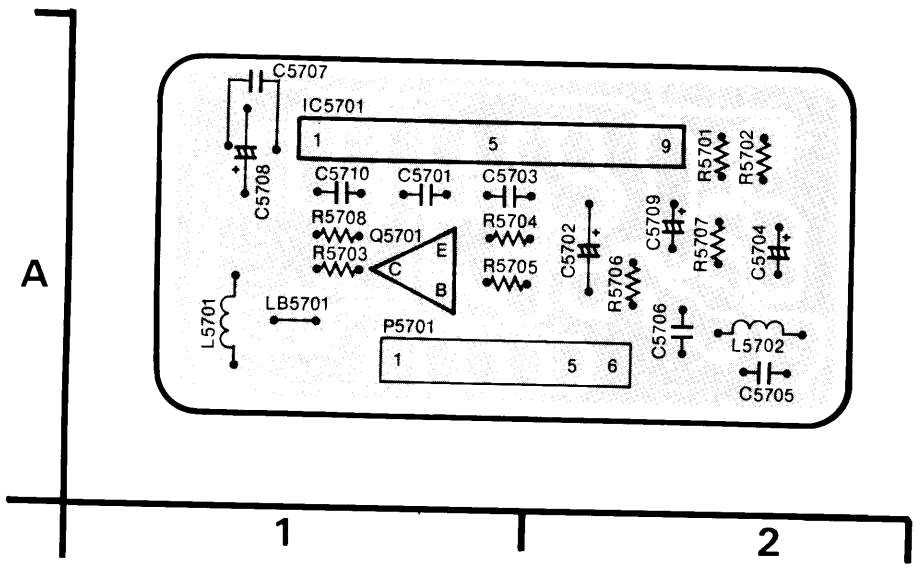
3-33. S-VHS PLAYBACK (1) PACK C.B.A. (VEP03A03A)

S-VHS PLAYBACK (1) PACK C.B.A.					
Transistor		Q5006	A-1	Q5012	A-2
Q5001	A-1	Q5007	A-2	Q5013	A-2
Q5002	A-1	Q5008	A-2	Connector	
Q5003	A-1	Q5009	A-3	P5001	A-2
Q5005	A-1	Q5010	A-2		
		Q5011	A-2		

ADDRESS INFORMATION



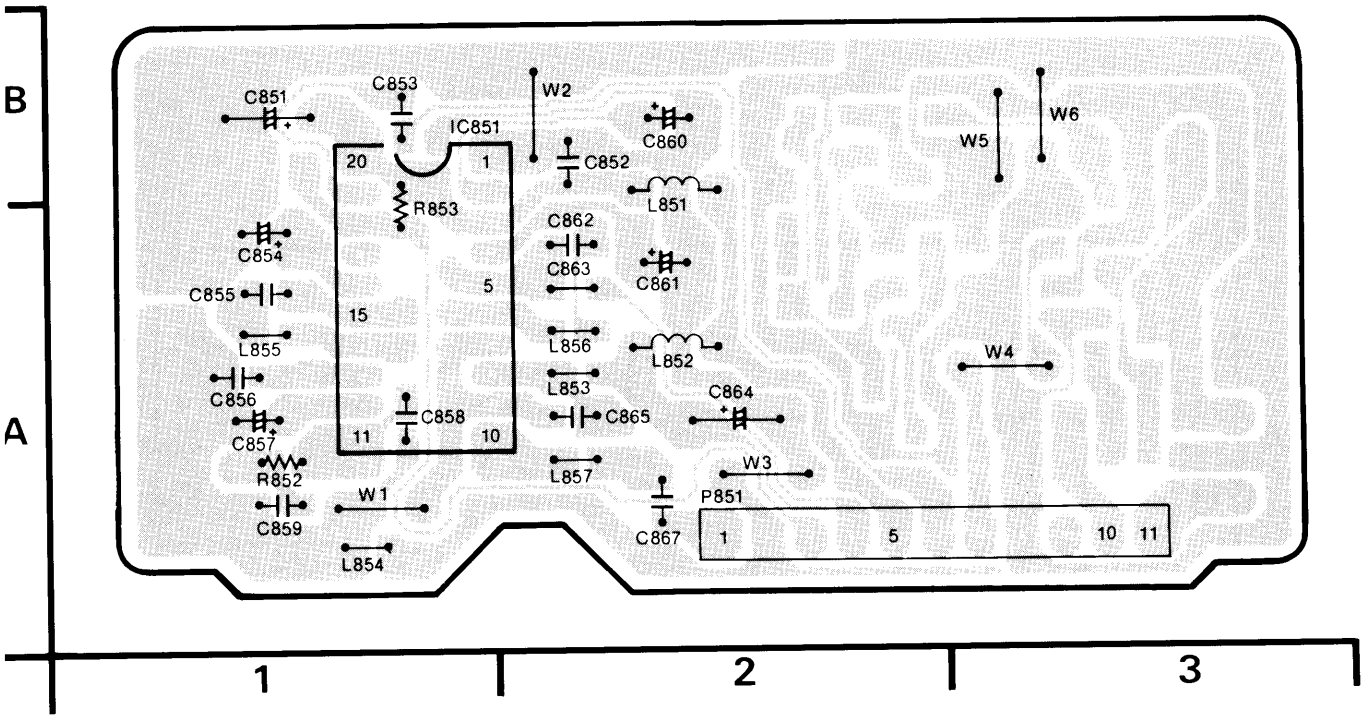
3-34. S-VHS PLAYBACK (2) PACK C.B.A. (VEP03D54A)



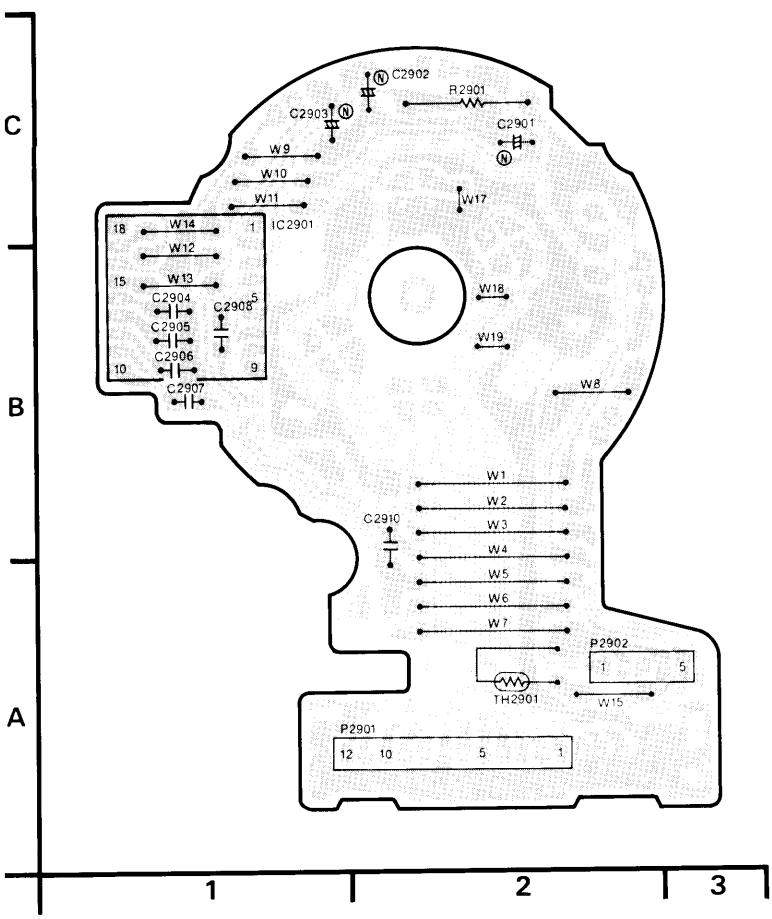
S-VHS PLAYBACK (2) PACK C.B.A.	
Transistor	
Q5701	A-1
Integrated Circuit	
IC5701	A-1
Connector	
P5701	A-1

ADDRESS INFORMATION

3-35. CNR PACK C.B.A. (VEP08171B)



3-36. CYLINDER DRIVE C.B.A. (VEX0231)



CYLINDER DRIVE C.B.A.	
Integrated Circuit	
IC2901	B-1
Connector	
P2901 P2902	A-2 A-2

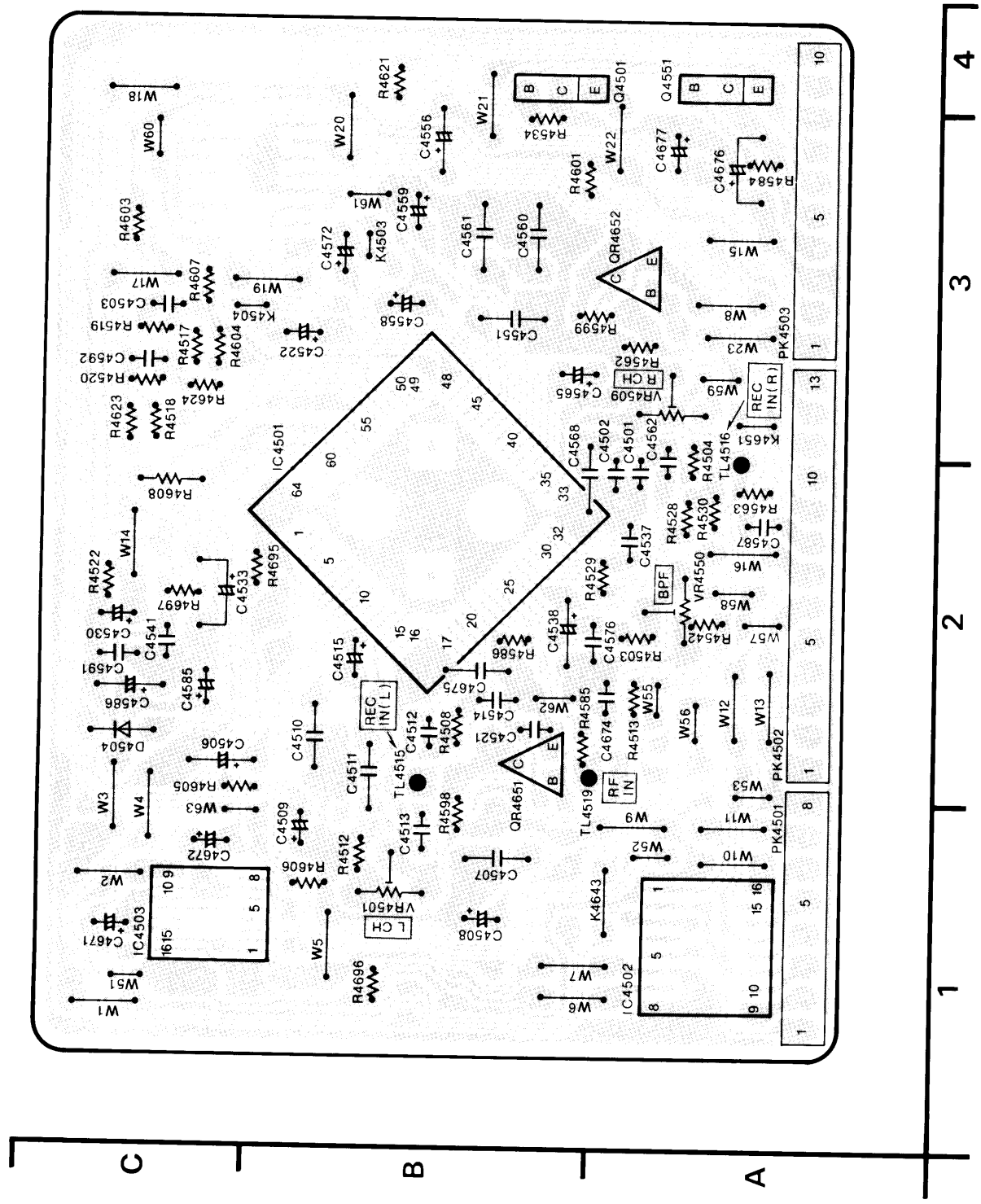
ADDRESS INFORMATION

CNR PACK C.B.A.	
Integrated Circuit	
IC851	B-1
Connector	
P851	A-2

ADDRESS INFORMATION

3-37. Hi-Fi AUDIO PACK C.B.A. (VEP04644C)

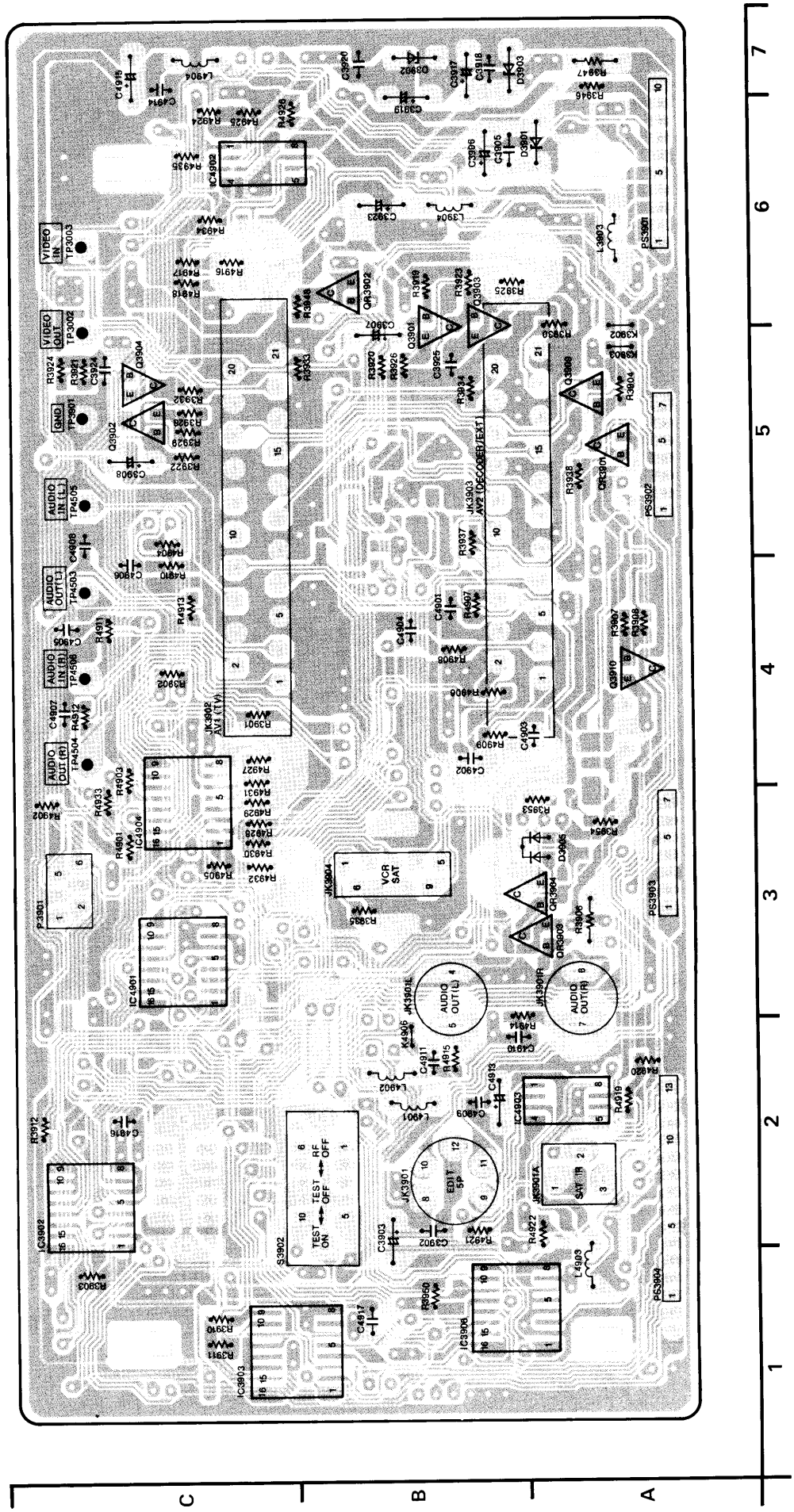
Hi-Fi AUDIO PACK C.B.A.	ADDRESS INFORMATION
Transistor	
Q4501	B-4
Q4551	A-4
Transistor & Resistor	
QR4561	B-2
QR4652	A-3
Integrated Circuit	
IC4501	B-2
IC4502	A-1
IC4503	C-1
Test Point	
TL4515	B-2
TL4516	A-2
TL4519	B-2
Adjustment	
VR4501	B-1
VR4509	A-3
VR4550	A-2
Connector	
PK4501	A-1
PK4502	A-2
PK4503	A-3



3-38. INPUT/OUTPUT PACK C.B.A. (VEP03D34M)

Transistor		QR3903	A-3	Test Point		Connector	
		QR3904	A-3	TP3002	C-5	P3901	C-3
Q3901	B-5	Integrated Circuit		TP3003	C-6	PS3901	A-6
Q3902	C-5			TP3901	C-5	PS3902	A-5
Q3903	B-6	IC3902	C-2	TP4503	C-4	PS3903	A-3
Q3904	C-5	IC3903	C-1	TP4504	C-4	PS3904	A-1
Q3909	A-5	IC3906	B-1	TP4505	C-5		
Q3910	A-4	IC4901	C-3	TP4506	C-4		
Transistor & Resistor		IC4902	C-6				
QR3901	A-5	IC4903	A-2				
QR3902	B-6	IC4904	C-3				

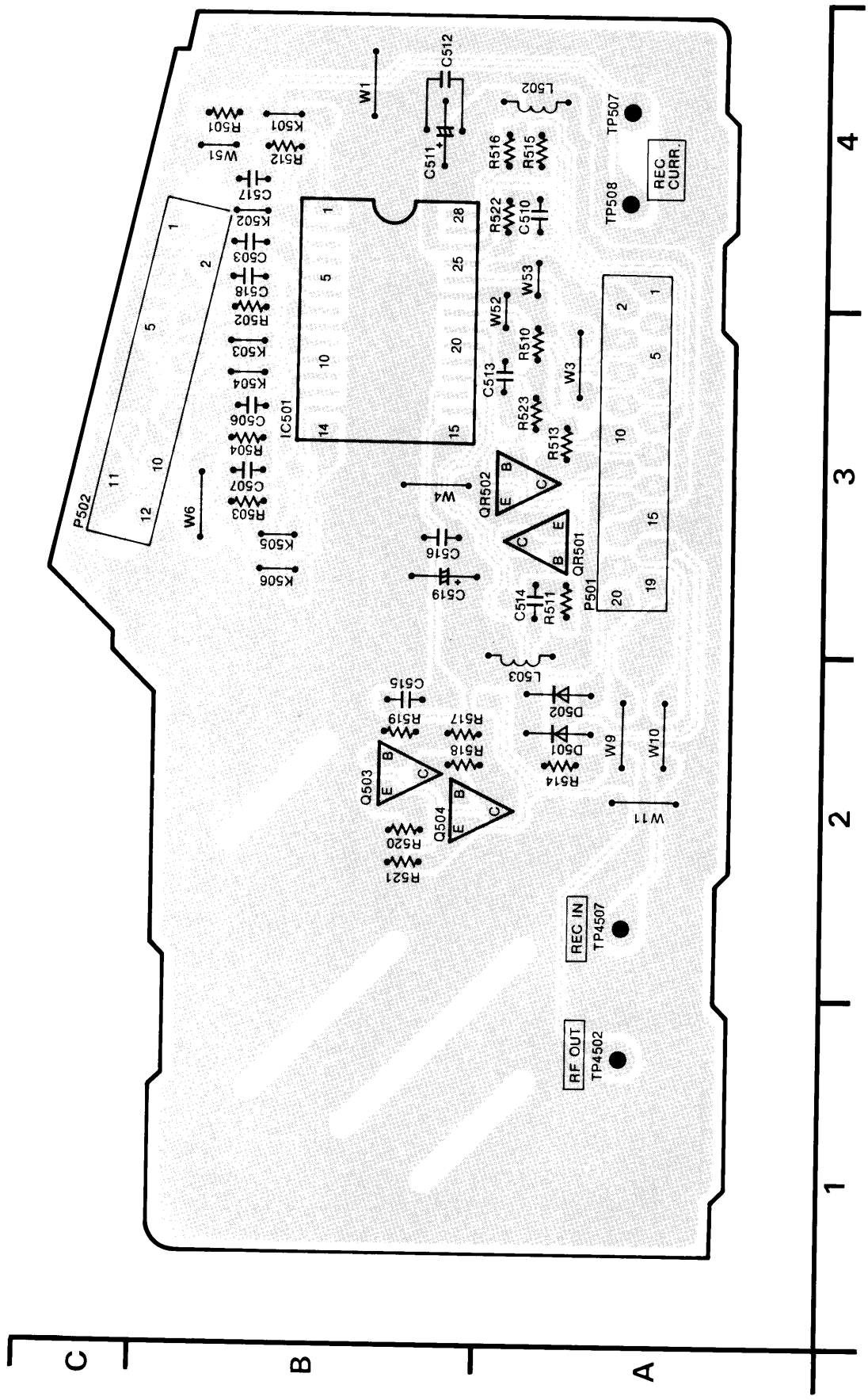
ADDRESS INFORMATION



3-39. HEAD AMP C.B.A. (VEP05329B)

HEAD AMP C.B.A.			
Transistor		**Test Point**	
Q503	B-2	TP507	A-4
Q504	B-2	TP508	A-4
		TP4502	A-1
		TP4507	A-2
Transistor & Resistor		**Connector**	
QR501	A-3	P501	A-3
QR502	A-3	P502	C-3
Integrated Circuit			
IC501	B-3		

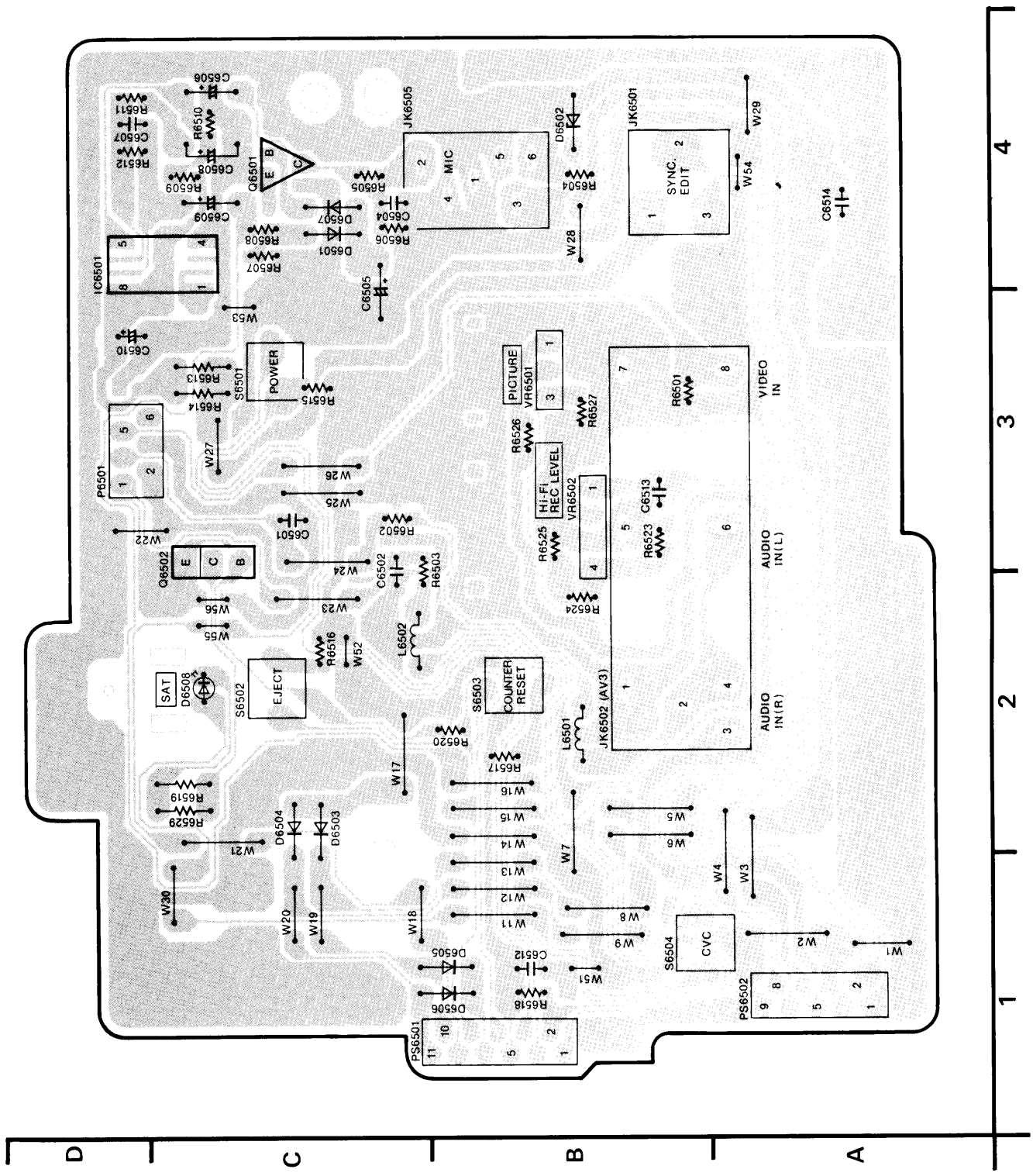
ADDRESS INFORMATION



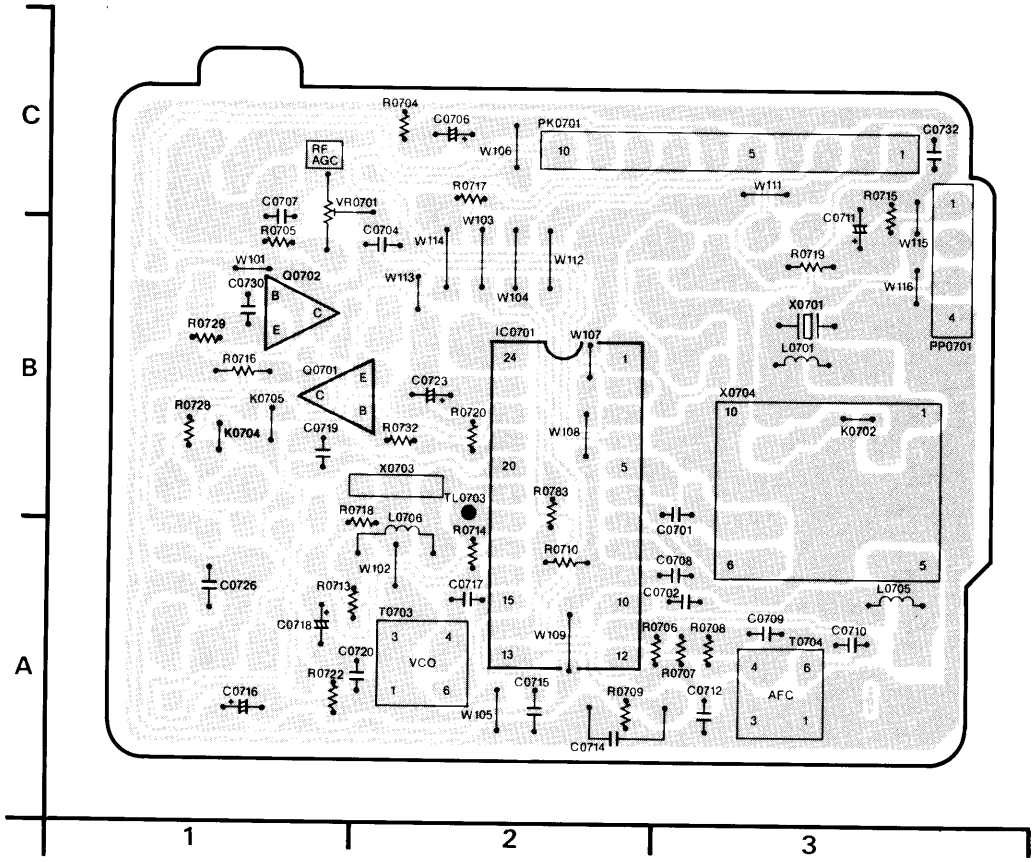
3-40. OPERATION C.B.A. (VEP06B38B)

Transistor	
Q6501	C-4
Q6502	C-3
Integrated Circuit	
IC6501	D-4
Adjustment	
VR6501	B-3
VR6502	B-3
Connector	
P6501	D-3
PS6501	B-1
PS6502	A-1

ADDRESS INFORMATION



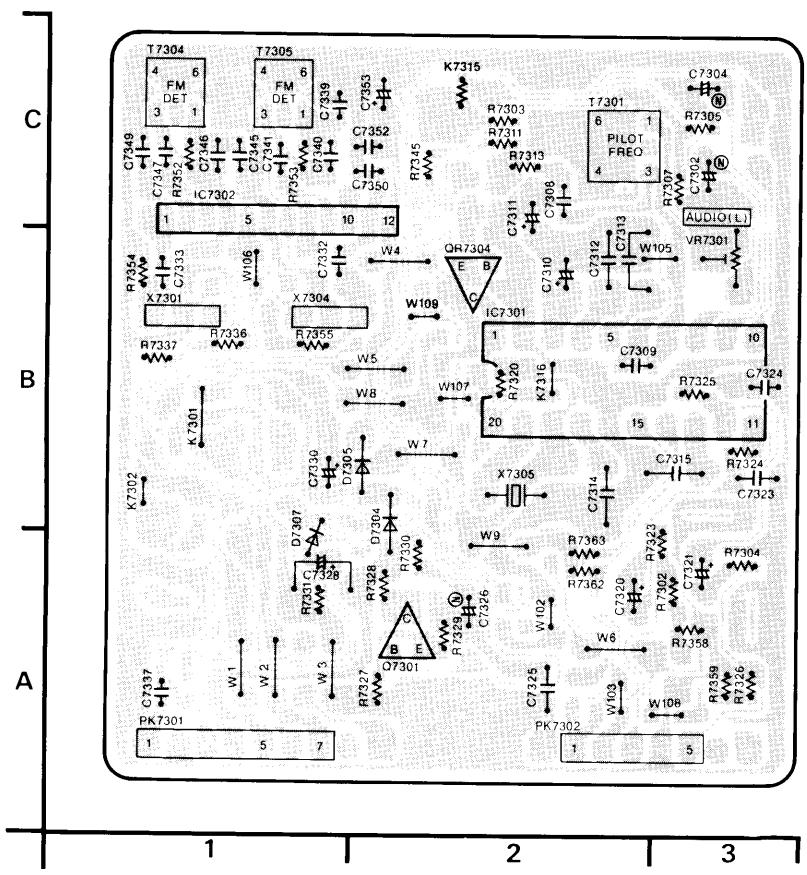
3-41. TV DEMODULATOR PACK C.B.A. (VEP07801AJ)



TV DEMODULLATOR PACK C.B.A.	
Transistor	
Q0701 Q0702	B-1 B-1
Integrated Circuit	
IC0701	B-2
Test Point	
TL0703	B-2
Adjustment	
T0703 T0704 VR0701	A-2 A-3 C-1
Connector	
PK0701 PP0701	C-2 C-3

ADDRESS INFORMATION

3-42. DECODER PACK C.B.A. (VEP07784E: NV-HD670EG/EGH)



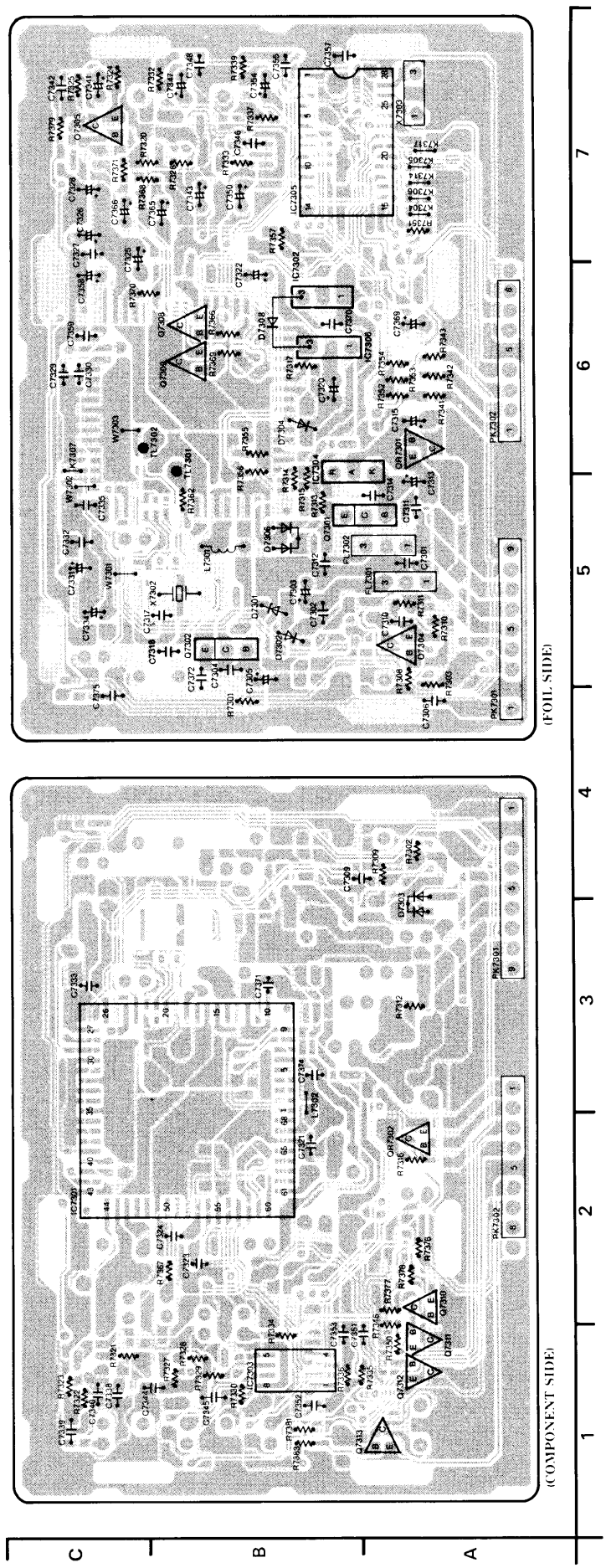
DECODER PACK C.B.A.	
Transistor	
Q7301	A-2
Transistor & Resistor	
QR7304	B-2
Integrated Circuit	
IC7301 IC7302	B-3 C-1
Adjustment	
T7301 T7304 T7305 VR7301	C-2 C-1 C-1 B-3
Connector	
PK7301 PK7302	A-1 A-2

ADDRESS INFORMATION

3-43. NICAM DECODER PACK C.B.A. (VEP07787P: NV-HD670EC)

Transistor		IC7303	B-1
Q7301	B-5	IC7304	B-6
Q7302	B-5	IC7305	B-7
Q7304	A-5	IC7306	B-6
Q7305	C-7	**Test Point**	
Q7308	B-6	TL7301	B-6
Q7309	B-6	TL7302	C-6
Q7310	A-2	**Connector**	
Q7311	A-1	PK7301	A-3
Q7312	A-1	PK7301	A-5
Q7313	A-1	PK7302	A-2
Transistor & Resistor		PK7302	A-6
QR7301	A-6		
QR7302	A-2		
Integrated Circuit			
IC7301	C-2		
IC7302	B-6		

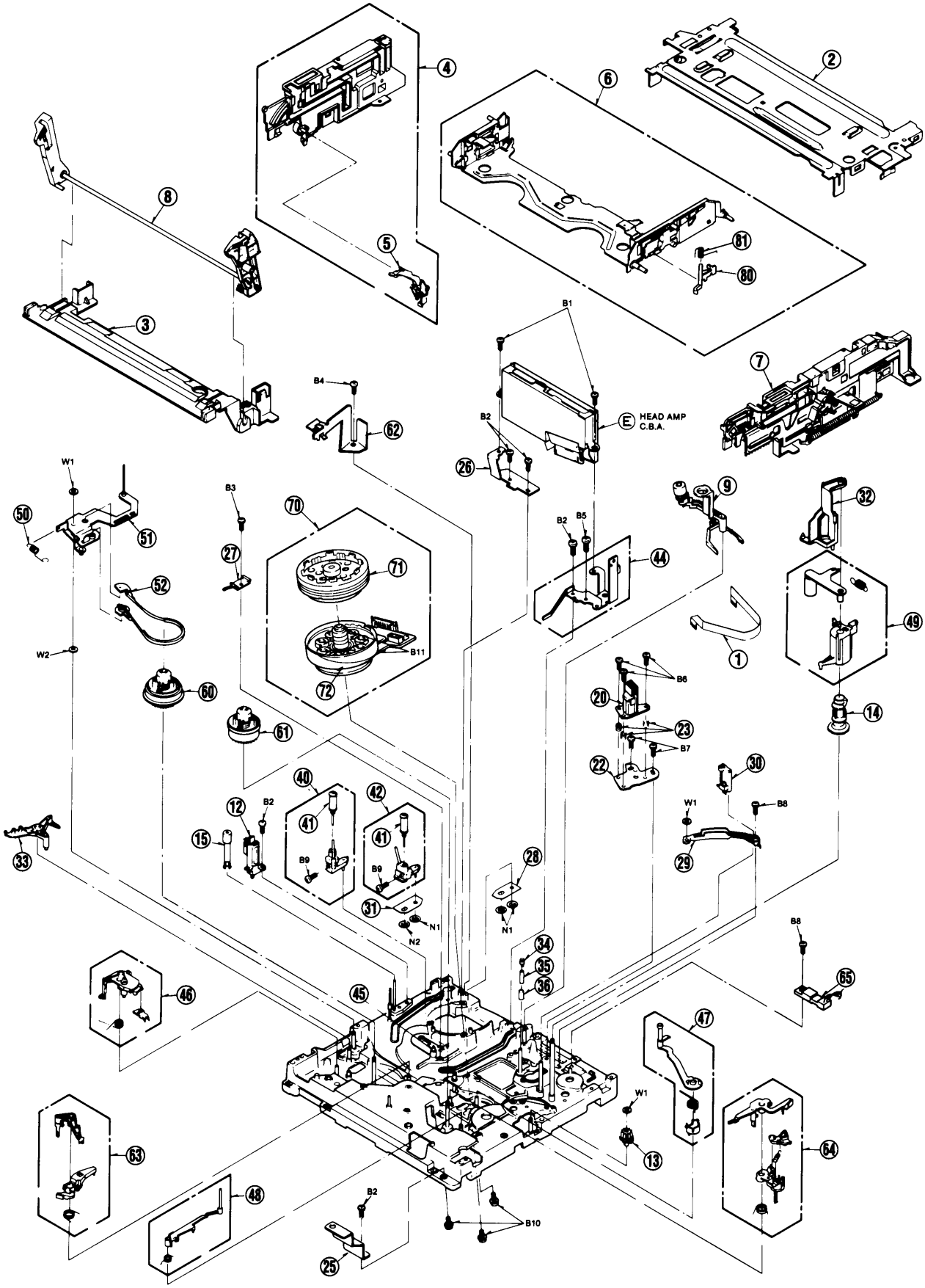
ADDRESS INFORMATION



SECTION 4
EXPLODED VIEWS & PARTS LIST

4-1. EXPLODED VIEW & MECHANICAL REPLACEMENT PARTS LIST

❶ CHASSIS PARTS SECTION (1)



Note: 1. * Be sure to make your orders of replacement parts according to this list.
2. IMPORTANT SAFETY NOTICE
Components identified with the mark ⚠ have the special characteristics for safety. When replacing any of these components, use only the same type.

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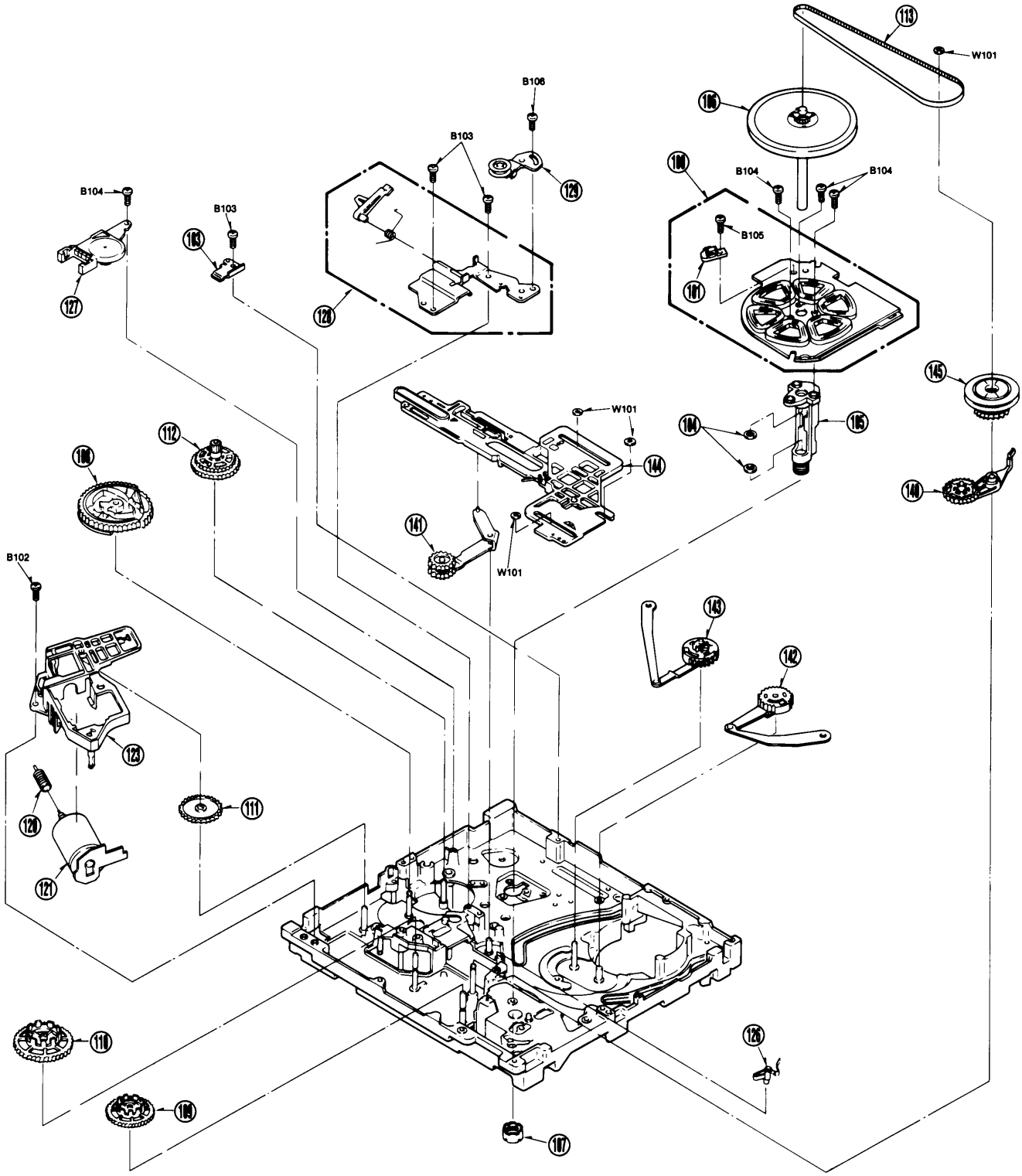
2. IMPORTANT SAFETY NOTICE
Components identified with the mark ⚠ have the special characteristics for safety. When replacing any of these components, use only the same type.

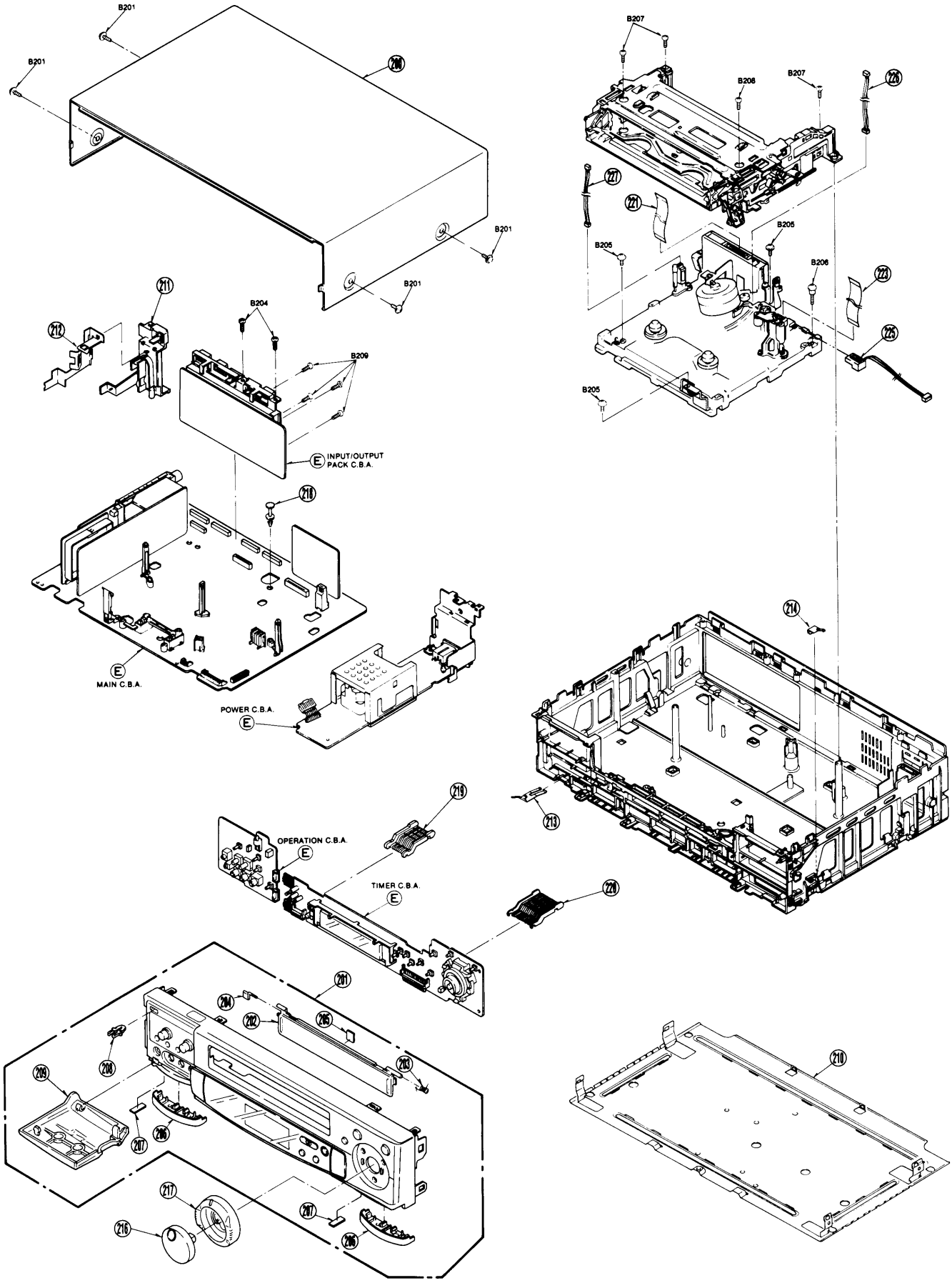
Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
1 (1)	VWJ0743	FLEXIBLE CABLE (6P)	1	P4002-A/C HEAD
2 (1)	VMA8644	TOP PLATE	1	
3 (1)	VMA8787	CASSETTE GUIDE	1	
4 (1)	VXA4660	SIDE PLATE (L) UNIT	1	
5 (1)	VXL2250	OPENER LEVER UNIT	1	
6 (1)	VXA4661	CASSETTE HOLDER PLATE UNIT	1	
7 (1)	VXA4806	SIDE PLATE (R) UNIT	1	
8 (1)	VXP1339	MAIN SHAFT UNIT	1	
9 (1)	VXL2440	CLEANER ARM UNIT	1	
12 (1)	VBS0052	FE HEAD	1	
13 (1)	VDG0871	CARRIAGE CONNECTION GEAR	1	
14 (1)	VDG0886	PINCH CAM GEAR	1	
15 (1)	VXP1402	IMPEDANCE ROLLER UNIT	1	
20 (1)	VED0217	A/C HEAD (1) UNIT	1	
22 (1)	VMA8624	A/C HEAD BASE	1	
23 (1)	VMB2515	A/C HEAD SPRING	3	
25 (1)	VMA8761	MOUNT ANGLE	1	
26 (1)	VMA9158	HEAD AMP MOUNT ANGLE (L)	1	
27 (1)	VMC0917	EARTH SPRING	1	
28 (1)	VMA8874	INCLIND BASE HOLDER (S)	1	
29 (1)	VMD2078	P5 STOPPER BASE	1	
30 (1)	VXA4927	P5 POST STOPPER	1	
31 (1)	VMA8873	INCLIND BASE HOLDER (T)	1	
32 (1)	VMD2101	OPENER PIECE	1	
33 (1)	VML2776	TENSION SPRING ARM	1	
34 (1)	VMX1544	P4 UPPER LIMITER	1	
35 (1)	VMX2175	P4 SLEEVE	1	
36 (1)	VMX2176	P4 LOWER LIMITER	1	
40 (1)	VXA5245KIT	INCLINED BASE (S) UNIT	1	OR VXA4982KIT
41 (1)	VXP1826	ROLLER POST	2	
42 (1)	VXA5247KIT	INCLINED BASE (T) UNIT	1	OR VXA4984KIT
44 (1)	VXA4974	HEAD AMP MOUNT ANGLE (R) U	1	
45 (1)	VMS5383	CASSETTE POSITION FIXTURE	1	
46 (1)	VXL2310	REVIEW ARM UNIT	1	
47 (1)	VXL2306	P5 ARM UNIT	1	
48 (1)	VXL2394	TAKE UP TENSION REG. ARM U	1	
49 (1)	VXL2246	PINCH ARM UNIT	1	
50 (1)	VMB2434	TENSION SPRING	1	
51 (1)	VXL2309	TENSION ARM (1) UNIT	1	
52 (1)	VXZ0310	TENSION BAND UNIT	1	
60 (1)	VXR0221	SUPPLY REEL TABLE UNIT	1	
61 (1)	VXR0237	TAKE UP REEL TABLE UNIT	1	
62 (1)	VXS0241	EARTH PLATE	1	
63 (1)	VXZ0312	SUPPLY BRAKE ARM UNIT	1	
64 (1)	VXZ0313	TAKE UP BRAKE ARM UNIT	1	
65 (1)	2SB1370YD01E	POWER TRANSISTOR	1	
70 (1)	VEG1406	CYLINDER UNIT	1	[SUPPLIED FROM MBV]
71 (1)	VXP1794	UPPER CYLINDER UNIT	1	[SUPPLIED FROM MBV]
72 (1)	VSC4474	CYLINDER SHIELD PLATE	1	[SUPPLIED FROM MBV]
80 (1)	VML2680	RELEASE LEVER	1	
81 (1)	VMB2013	RELEASE SPRING	1	
B1 (1)	VHD0773	SCREW	2	
B2 (1)	XTV26+6F	SCREW	5	
B3 (1)	XTV26+4F	SCREW	1	
B4 (1)	XTN3+8FFZ	SCREW	1	
B5 (1)	XTV26+10F	SCREW	1	
B6 (1)	VHD0762	SCREW	3	
B7 (1)	XTV26+6FZ	SCREW	2	
B8 (1)	XTV26+8F	SCREW	2	
B9 (1)	XQN2+AJ4	SCREW	2	
B10 (1)	VHD0342	SCREW	3	
B11 (1)	XYNV0029	SCREW	2	
N1 (1)	VHN0192	NUT	3	
N2 (1)	VHN0193	NUT	1	
W1 (1)	VMX2208	WASHER	3	
W2 (1)	XWGV26D5G	WASHER	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
100 (2)	VEK5927	CAPSTAN STATOR UNIT	1	
101 (2)	VBK0061	FG HEAD	1	
103 (2)	VMA8930	ROTOR STOPPER	1	
104 (2)	VMX1927	OIL SEAL	2	
105 (2)	VXD0140	HOUSING UNIT	1	
106 (2)	VXP1519	CAPSTAN ROTOR UNIT	1	
107 (2)	VXQ0297	THRUST SCREW UNIT	1	
108 (2)	VDG0913	MAIN CAM GEAR	1	
109 (2)	VDG0956	SUPPLY REEL GEAR	1	
110 (2)	VDG0957	TAKE UP REEL GEAR	1	
111 (2)	VDG0868	WORM WHEEL GEAR	1	
112 (2)	VDG0885	SUB CAM GEAR	1	
113 (2)	VDV0235	TIMING BELT	1	
120 (2)	VDG0866	WORM GEAR	1	
121 (2)	VEM0427	LOADING MOTOR (1) UNIT	1	
123 (2)	VMD1942	MOTOR BRACKET	1	
126 (2)	VML2725	IDLER CONTROL LEVER	1	
127 (2)	VSS0365	MODE SW	1	
128 (2)	VXA5138	SS BRAKE BASE UNIT	1	
129 (2)	VXA4799	TENSION ROLLER UNIT	1	
140 (2)	VXL2378	IDLER ARM UNIT	1	
141 (2)	VXL2372	DIRECT LEVER UNIT	1	
142 (2)	VXL2299	SUPPLY LOADING ARM UNIT	1	
143 (2)	VXL2300	TAKE UP LOADING ARM UNIT	1	
144 (2)	VXL2307	MAIN LEVER UNIT	1	
145 (2)	VXP1409	CENTRE CLUTCH	1	
B102 (2)	XTV26+8F	SCREW	1	
B103 (2)	XTV26+6F	SCREW	3	
B104 (2)	VHD0753	SCREW	4	
B105 (2)	VHD0754	SCREW	1	
B106 (2)	XSB26+4FZ	SCREW	1	
W101 (2)	VMX2208	WASHER	4	

❷ CHASSIS PARTS SECTION (2)



❸ CASING PARTS SECTION

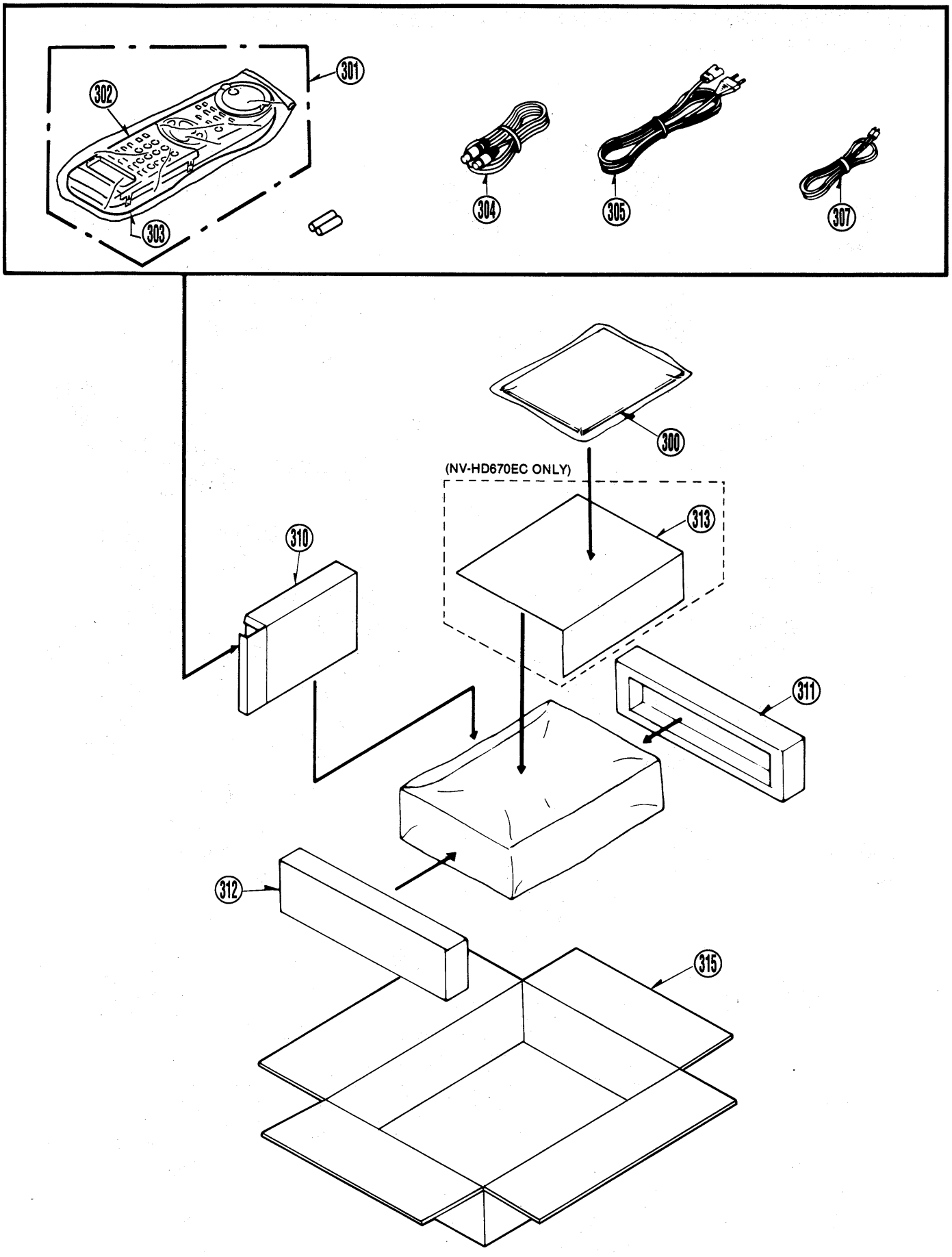


Note: 1. * Be sure to make your orders of replacement parts according to this list.
2. IMPORTANT SAFETY NOTICE
Components identified with the mark ⚠ have the special characteristics for safety. When replacing any of these components, use only the same type.

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
200 (3)	VGM1150	TOP PANEL	1	
201 (3)	VYP6429	FRONT PANEL UNIT	1	[SUPPLIED FROM MBV]
				NV-HD670EG/EGH
201 (3)	VYP6430	FRONT PANEL UNIT	1	[SUPPLIED FROM MBV]
				NV-HD670EC
202 (3)	VKF2709	BLINDER PANEL	1	[SUPPLIED FROM MBV]
203 (3)	VMB2521	BLINDER SPRING	1	
204 (3)	VDK0148	BLINDER CAM	1	
205 (3)	VMT0502	BLINDER CUSHION	1	
206 (3)	VKA0191	LEG	2	
207 (3)	VKA0122	FOOT	2	
208 (3)	VGQ0550	DOOR LOCK PIECE	1	
209 (3)	VKF2706	DOOR PANEL	1	[SUPPLIED FROM MBV]
				NV-HD670EG/EGH
209 (3)	VKF2707	DOOR PANEL	1	[SUPPLIED FROM MBV]
				NV-HD670EC
210 (3)	VKU0412	BOTTOM PLATE	1	
211 (3)	VJH0832	ANTENNA JACK PLATE	1	
212 (3)	VMC1213	ANTENNA EARTH SPRING	1	
213 (3)	VMC1062	JACK EARTH SPRING	1	
214 (3)	VMC1065	EARTH SPRING	1	
216 (3)	VGU7249	JOG DIAL	1	[SUPPLIED FROM MBV]
217 (3)	VGU7250	SHUTTLE RING	1	[SUPPLIED FROM MBV]
218 (3)	VMX2233	C.B.A. SPACER	1	
219 (3)	VJP3673A014G	BRIDGE CONNECTOR (14P)	1	[SUPPLIED FROM MBV]
				PS3001-PS7502
220 (3)	VJP3673A025G	BRIDGE CONNECTOR (25P)	1	PS6002-PS7501
221 (3)	VWJ1101	FLAT CARD CABLE (20P)	1	[SUPPLIED FROM MBV]
				P501-P3002
223 (3)	VWJ1102	FLAT CARD CABLE (15P)	1	[SUPPLIED FROM MBV]
				P2002-CAPSTAN
224 (3)	VWJ1103	FLAT CARD CABLE (6P)	1	[SUPPLIED FROM MBV]
				P3901-P6501
225 (3)	VEE9223	WIRE CABLE	1	P2502-POWER TR.
226 (3)	VEE9775	WIRE CABLE	1	[SUPPLIED FROM MBV]
				P2004-CYLINDER
227 (3)	VEE9776	WIRE CABLE	1	[SUPPLIED FROM MBV]
				P4003-FE HEAD
B201 (3)	XTW3+10TFZ	SCREW	4	
B204 (3)	VHD0773	SCREW	2	
B205 (3)	VHD0168	SCREW	3	
B206 (3)	VHD0874	SCREW	1	
B207 (3)	XTV26+8FR	SCREW	3	
B208 (3)	XTV26+10F	SCREW	1	
B209 (3)	XTV3+8GFZ	SCREW	4	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
⚠ 300 (4)	VQT6918	OPERATING INSTRUCTIONS	1	[SUPPLIED FROM MBV]
		(ENGLISH/GERMAN/ITALIAN)		NV-HD670EG
⚠ 300 (4)	VQT6919	OPERATING INSTRUCTIONS	1	[SUPPLIED FROM MBV]
		(FRENCH)		NV-HD670EG/EC
⚠ 300 (4)	VQT6920	OPERATING INSTRUCTIONS	1	[SUPPLIED FROM MBV]
		(DUTCH)		
⚠ 300 (4)	VQT6921	OPERATING INSTRUCTIONS	1	[SUPPLIED FROM MBV]
		(SWEDISH/DANISH/FINNISH)		NV-HD670EC
⚠ 300 (4)	VQT6922	OPERATING INSTRUCTIONS	1	[SUPPLIED FROM MBV]
		(SPANISH)		NV-HD670EC
301 (4)	EUR571402	REMOTE CONTROLLER	1	[SUPPLIED FROM MBV]
302 (4)	UR57VFT559	DOOR PANEL UNIT	1	[SUPPLIED FROM MBV]
303 (4)	UR57EC559G	BATTERY COVER	1	[SUPPLIED FROM MBV]
304 (4)	VJA0963	DIN RF CABLE	1	
⚠ 305 (4)	VJA0664	AC CORD	1	
307 (4)	VJA0231	AUDIO CABLE	1	
310 (4)	VPK0834	ACCESSORIES PAKING	1	
311 (4)	VPN4449	CUSHION (R)	1	[SUPPLIED FROM MBV]
312 (4)	VPN4450	CUSHION (L)	1	[SUPPLIED FROM MBV]
313 (4)	VPN4460	PAD	1	NV-HD670EC
315 (4)	VPG8868	PACKING	1	[SUPPLIED FROM MBV]
		SERVICE FIXTURES & TOOLS		
	VFJ8125H3F	VHS ALIGNMENT TAPE (PAL)	1	
	VFK0335	RETAINING RING REMOVER	1	
		(3MM/4MM)		
	VFK0329	POST ADJUSTMENT SCREWDRIVER	1	
	VFK0326	HEX WRENCH SET	1	
	VFK0132	BACK TENSION METER	1	
	VFK27	HEAD CLEANING STICK	1	
	VFK1024	MORLYTONE GREASE	1	
	VFK0680	WHITE GREASE	1	
	VFK0851	GENTRE FIXING TOOL	1	
	VFK0330	FINE ADJUSTMENT GEAR DRIVER	1	
	VFK1140	11P EXTENSION CABLE	1	

❹ PACKING PARTS SECTION



4-2. ELECTRICAL REPLACEMENT PARTS LIST

Note: 1. Be sure to make your orders of replacement parts according to this list.
2. IMPORTANT SAFETY NOTICE : Components identified with the mark ⚠ have the special characteristics for safety. When replacing any of these components, use only the same type.
3. Unless otherwise specified,
All resistors are in OHMS, K=1,000 OHMS. All capacitors are in MICROFARADS(uf), P=uuF.
4. The P.C. Board units marked width " ■ " show below the main assembled parts.
5. The marking (RTL) indicaters the retention time is limited for this item.
After the discontinuation of this assembly in production, it will no longer be available.

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
■	VEP06B36XQ	MAIN C. B. A.	1	[SUPPLIED FROM MBV]
		(Page:4-7)		(RTL) NV-HD670EG/EGH
				THE FOLLOWING C. B. A. S ARE
				INCLUDED IN MAIN C. B. A.
				VEP03D95G
				VEP04644C
				VEP07784E
				VEP07801AJ
■	VEP03D95G	LUMINANCE &	1	[SUPPLIED FROM MBV]
		CHROMINANCE PACK C. B. A.		(RTL) INCLUDED IN MAIN
				C. B. A. (VEP06B36XQ).
				THE FOLLOWING C. B. A. S ARE
				ARE INCLUDED IN
				LUMI. & CHROMI. C. B. A.
				VEP03A03A
				VEP03D54A
				VEP08171B
■	VEP03A03A	SQ PB C. B. A.	1	[SUPPLIED FROM MBV]
				(RTL) INCLUDED IN LUMI. &
				CHROMI. C. B. A. (VEP03D95G).
■	VEP03D54A	SQ PB (2) C. B. A.	1	[SUPPLIED FROM MBV]
				(RTL) INCLUDED IN LUMI. &
				CHROMI. C. B. A. (VEP03D95G).
■	VEP08171B	CNR PACK C. B. A.	1	[SUPPLIED FROM MBV]
				(RTL) INCLUDED IN LUMI. &
				CHROMI. C. B. A. (VEP03D95G).
■	VEP04644C	HI-FI AUDIO PACK C. B. A.	1	[SUPPLIED FROM MBV]
				(RTL) INCLUDED IN MAIN
				C. B. A. (VEP06B36XQ).
■	VEP07784E	DECODER C. B. A.	1	[SUPPLIED FROM MBV]
				(RTL) INCLUDED IN MAIN
				C. B. A. (VEP06B36XQ).
■	VEP07801AJ	TV DEMODULATOR PACK C. B. A	1	[SUPPLIED FROM MBV]
				(RTL) INCLUDED IN MAIN
				C. B. A. (VEP06B36XQ).
■	VEP06B36XR	MAIN C. B. A.	1	[SUPPLIED FROM MBV]
		(Page:4-15)		(RTL) NV-HD670EC
				THE FOLLOWING C. B. A. S ARE
				INCLUDED IN MAIN C. B. A.
				VEP03D95G
				VEP04644C
				VEP07787P
				VEP07801AJ
■	VEP03D95G	LUMINANCE	1	[SUPPLIED FROM MBV]
		& CHROMINANCE PACK C. B. A.		(RTL) INCLUDED IN MAIN
				C. B. A. (VEP06B36XR).
				THE FOLLOWING C. B. A. S
				ARE INCLUDED IN
				LUMI. & CHROMI. C. B. A.
				VEP03A03A
				VEP03D54A
				VEP08171B
■	VEP03A03A	SQ PB C. B. A.	1	[SUPPLIED FROM MBV]
				(RTL) INCLUDED IN LUMI. &
				CHROMI. C. B. A. (VEP03D95G).
■	VEP03D54A	SQ PB (2) C. B. A.	1	[SUPPLIED FROM MBV]

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
				(RTL) INCLUDED IN LUMI. &
				CHROMI. C. B. A. (VEP03D95G).
■	VEP08171B	CNR PACK C. B. A.	1	[SUPPLIED FROM MBV]
				(RTL) INCLUDED IN LUMI. &
				CHROMI. C. B. A. (VEP03D95G).
■	VEP04644C	HI-FI AUDIO PACK C. B. A.	1	[SUPPLIED FROM MBV]
				(RTL) INCLUDED IN MAIN
				C. B. A. (VEP06B36XR).
■	VEP07787P	NICAM DECODER PACK C. B. A.	1	[SUPPLIED FROM MBV]
				(RTL) INCLUDED IN MAIN
				C. B. A. (VEP06B36XR).
■	VEP07801AJ	TV DEMODULATOR PACK C. B. A	1	[SUPPLIED FROM MBV]
				(RTL) INCLUDED IN MAIN
				C. B. A. (VEP06B36XR).
■	VEP03D34M	INPUT/OUTPUT C. B. A.	1	[SUPPLIED FROM MBV]
		(Page:4-22)		(RTL)
■	VEP05329B	HEAD AMP C. B. A.	1	[SUPPLIED FROM MBV]
		(Page:4-23)		(RTL)
■	VEP07935H	TIMER C. B. A.	1	[SUPPLIED FROM MBV]
		(Page:4-23)		(RTL) NV-HD670EG
■	VEP07935J	TIMER C. B. A.	1	[SUPPLIED FROM MBV]
		(Page:4-24)		(RTL) NV-HD670EGH
■	VEP07935K	TIMER C. B. A.	1	[SUPPLIED FROM MBV]
		(Page:4-25)		(RTL) NV-HD670EG
■	VEP06B38B	POWER SWITCH C. B. A.	1	[SUPPLIED FROM MBV]
		(Page:4-25)		(RTL)
⚠ ■	VEP01763A	POWER C. B. A.	1	[SUPPLIED FROM MBV]
		(Page:4-26)		(RTL) NV-HD670EG/EGH
⚠ ■	VEP01763B	POWER C. B. A.	1	[SUPPLIED FROM MBV]
		(Page:4-26)		(RTL) NV-HD670EG
■	VEX0231	CYLINDER DRIVE C. B. A.	1	(RTL)
		(Page:4-27)		
■	----------	MOTOR C. B. A.	1	C. B. A. IS INCLUDED IN
		(Page:4-27)		LOADING MOTOR (1) UNIT
				(VEM0427).
⚠ TU7601	ENG47232GD	TUNER	1	[SUPPLIED FROM MBV]
⚠ F1101	XBA2C16TH15	FUSE	1	
■	VEP06B36XQ	MAIN C. B. A.		[SUPPLIED FROM MBV]
				(RTL) NV-HD670EG/EGH
C301	ECUX1H101JCV	C. CAPACITOR CH 50V 100P	1	
C302	ECUX1H820JCV	C. CAPACITOR CH 50V 82P	1	
C303	ECUX1H331JCV	C. CAPACITOR CH 50V 330P	1	
C305	ECUX1H102GCV	C. CAPACITOR CH 50V 1000P	1	[SUPPLIED FROM MBV]
C306	ECUX1H103ZFV	C. CAPACITOR CH 50V 0. 01U	1	
C307	ECEA1EKA4R7	E. CAPACITOR 25V 4. 7U	1	
C309	ECUX1H330JCV	C. CAPACITOR CH 50V 33P	1	
C310	ECUX1E223KBV	C. CAPACITOR CH 25V 0. 022U	1	
C311	ECUM1E104KBN	C. CAPACITOR CH 25V 0. 1U	1	
C312	ECUX1H680JCV	C. CAPACITOR CH 50V 68P	1	
C313	ECUX1H681GCV	C. CAPACITOR CH 50V 680P	1	[SUPPLIED FROM MBV]
C314	ECUM1H104ZFN	C. CAPACITOR CH 50V 0. 1U	1	
C315	ECUX1H103ZFV	C. CAPACITOR CH 50V 0. 01U	1	
C316	ECEA1HKA010	E. CAPACITOR 50V 1U	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C317	ECUX1C104KBV	C. CAPACITOR CH 16V 0.1U	1	
C318	ECUX1C104ZFV	C. CAPACITOR CH 16V 0.1U	1	
C319	ECUX1H222KBV	C. CAPACITOR CH 50V 2200P	1	
C320	ECUX1C333KBV	C. CAPACITOR CH 16V 0.033U	1	
C321	ECEA1HKA010	E. CAPACITOR 50V 1U	1	
C322	ECUX1H270JCV	C. CAPACITOR CH 50V 27P	1	
C323	ECUX1C104ZFV	C. CAPACITOR CH 16V 0.1U	1	
C324	ECEA0JKA101	E. CAPACITOR 6.3V 100U	1	
C325	ECUX1H103ZFV	C. CAPACITOR CH 50V 0.01U	1	
C327	ECEA0JKA101	E. CAPACITOR 6.3V 100U	1	
C328	ECUX1H080DCV	C. CAPACITOR CH 50V 8P	1	
C329	ECUX1H101JCV	C. CAPACITOR CH 50V 100P	1	
C330	ECUX1H330JCV	C. CAPACITOR CH 50V 33P	1	
C331	ECUX1H820JCV	C. CAPACITOR CH 50V 82P	1	
C332	ECUX1H681JCV	C. CAPACITOR CH 50V 680P	1	
C333	ECUX1H060DCV	C. CAPACITOR CH 50V 6P	1	
C334	ECUX1H100DCV	C. CAPACITOR CH 50V 10P	1	
C335	ECUX1H120JCV	C. CAPACITOR CH 50V 12P	1	
C336	ECUX1C104ZFV	C. CAPACITOR CH 16V 0.1U	1	
C337	ECEA1CKA100	E. CAPACITOR 16V 10U	1	
C338	ECUX1C104ZFV	C. CAPACITOR CH 16V 0.1U	1	
C339	ECUX1H470JCV	C. CAPACITOR CH 50V 47P	1	
C340	ECEA1CKA100	E. CAPACITOR 16V 10U	1	
C341	ECUX1E223KBV	C. CAPACITOR CH 25V 0.022U	1	
C342	ECEA1EKA4R7	E. CAPACITOR 25V 4.7U	1	
C343	ECEA1EKN4R7	E. CAPACITOR 25V 4.7U	1	
C344	ECUX1C104ZFV	C. CAPACITOR CH 16V 0.1U	1	
C345, 46	ECUX1H103ZFV	C. CAPACITOR CH 50V 0.01U	2	
C347	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C348	ECEA1CKA101	E. CAPACITOR 16V 100U	1	
C349	ECUX1C104ZFV	C. CAPACITOR CH 16V 0.1U	1	
C350	ECUX1H152KBV	C. CAPACITOR CH 50V 1500P	1	
C351	ECUX1H392KBV	C. CAPACITOR CH 50V 3900P	1	
C352	ECEA0JKA470	E. CAPACITOR 6.3V 47U	1	
C353	ECUX1H221JCV	C. CAPACITOR CH 50V 220P	1	
C354	ECUX1H470JCV	C. CAPACITOR CH 50V 47P	1	
C355	ECEA0JKA221	E. CAPACITOR 6.3V 220U	1	
C356	ECUX1H103ZFV	C. CAPACITOR CH 50V 0.01U	1	
C357	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
C358	ECUX1H472KBV	C. CAPACITOR CH 50V 4700P	1	
C362	ECUX1H103ZFV	C. CAPACITOR CH 50V 0.01U	1	
C363	ECUX1H270JCV	C. CAPACITOR CH 50V 27P	1	
C365, 66	ECUX1H101JCV	C. CAPACITOR CH 50V 100P	2	
C370	ECUX1C104ZFV	C. CAPACITOR CH 16V 0.1U	1	
C371	ECEA1HKA0R1	E. CAPACITOR 50V 0.1U	1	
C372, 73	ECUX1C104ZFV	C. CAPACITOR CH 16V 0.1U	2	
C374	ECUX1H103ZFV	C. CAPACITOR CH 50V 0.01U	1	
C376	ECUX1H103ZFV	C. CAPACITOR CH 50V 0.01U	1	
C378	ECUX1H103ZFV	C. CAPACITOR CH 50V 0.01U	1	
C379, 80	ECUX1H330JCV	C. CAPACITOR CH 50V 33P	2	
C0701, 02	ECUX1H103ZFV	C. CAPACITOR CH 50V 0.01U	2	
C0704	ECUX1H331JCV	C. CAPACITOR CH 50V 330P	1	
C0706	ECEA1HKA0R1	E. CAPACITOR 50V 0.1U	1	
C0707, 08	ECUX1H103ZFV	C. CAPACITOR CH 50V 0.01U	2	
C0709	ECUX1H120JCV	C. CAPACITOR CH 50V 12P	1	
C0710	ECUX1H470JPV	C. CAPACITOR CH 50V 47P	1	
C0711	ECEA1CKA100	E. CAPACITOR 16V 10U	1	
C0712	ECUX1H103ZFV	C. CAPACITOR CH 50V 0.01U	1	
C0714	ECQB1H473JF	P. CAPACITOR 50V 0.047U	1	
C0715	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C0716	ECEA1CKA470	E. CAPACITOR 16V 47U	1	
C0717	ECUX1H270JPV	C. CAPACITOR CH 50V 27P	1	
C0718	ECEA1HKSR47	E. CAPACITOR 50V 0.47U	1	
C0719	ECUX1H220JCV	C. CAPACITOR CH 50V 22P	1	
C0720	ECUX1H103ZFV	C. CAPACITOR CH 50V 0.01U	1	
C0723	ECEA1HKA0R1	E. CAPACITOR 50V 0.1U	1	
C0726	ECUX1H103ZFV	C. CAPACITOR CH 50V 0.01U	1	
C0730	ECUX1H103ZFV	C. CAPACITOR CH 50V 0.01U	1	
C0732	ECUX1H103ZFV	C. CAPACITOR CH 50V 0.01U	1	
C801	ECEA1CKA100	E. CAPACITOR 16V 10U	1	
C802	ECUX1H103ZFV	C. CAPACITOR CH 50V 0.01U	1	
C803	ECEA0JKA470	E. CAPACITOR 6.3V 47U	1	
C804	ECUX1H103ZFV	C. CAPACITOR CH 50V 0.01U	1	
C805	ECUX1H050CCV	C. CAPACITOR CH 50V 5P	1	
C806	ECUX1C104ZFV	C. CAPACITOR CH 16V 0.1U	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C807	ECUX1H103ZFV	C. CAPACITOR CH 50V 0.01U	1	
C851	ECEA1CKA100	E. CAPACITOR 16V 10U	1	
C852, 53	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	2	
C854	ECEA1HKA0R1	E. CAPACITOR 50V 0.1U	1	
C855, 56	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	2	
C857	ECEA1HKA0R1	E. CAPACITOR 50V 0.1U	1	
C858	ECUM1H472KBN	C. CAPACITOR CH 50V 4700P	1	
C859	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
C860, 61	ECEA1HKA010	E. CAPACITOR 50V 1U	2	
C862	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C863	ERJ6GMZ0R00	M. RESISTOR CH 1/10W 0	1	
C864	ECEA1CKA100	E. CAPACITOR 16V 10U	1	
C865	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C867	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C1001	ECA1CM101	E. CAPACITOR 16V 100U	1	
C1002	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C1003	ECA1CM470	E. CAPACITOR 16V 47U	1	
C1004	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C1005	ECEA0JKA220	E. CAPACITOR 6.3V 22U	1	
C1006	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C1007	ECEA0JKA101	E. CAPACITOR 6.3V 100U	1	
C1008	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C1009	ECEA0JKA220	E. CAPACITOR 6.3V 22U	1	
C1010	ECEA0JKA101	E. CAPACITOR 6.3V 100U	1	
C1011	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C1012	ECEA0JKA101	E. CAPACITOR 6.3V 100U	1	
C1013	ECEA0JKA220	E. CAPACITOR 6.3V 22U	1	
C2001	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C2002, 03	ECUM1H102KBN	C. CAPACITOR CH 50V 1000P	2	
C2004	ECUM1H223KBN	C. CAPACITOR CH 50V 0.022U	1	
C2005	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C2006	ECUM1H392KBN	C. CAPACITOR CH 50V 3900P	1	
C2007	ECUM1H472KBN	C. CAPACITOR CH 50V 4700P	1	
C2008	ECQV1H683JM	P. CAPACITOR 50V 0.068U	1	
C2009	ECEA0JKA221	E. CAPACITOR 6.3V 220U	1	
C2010	ECUM1H471JCN	C. CAPACITOR CH 50V 470P	1	
C2011	ECEA0JKA221	E. CAPACITOR 6.3V 220U	1	
C2012	ECEA1CKA100	E. CAPACITOR 16V 10U	1	
C2013	ECUM1H222KBN	C. CAPACITOR CH 50V 2200P	1	
C2014	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C2015	ECEA0JKA470	E. CAPACITOR 6.3V 47U	1	
C2016, 17	ECEA1EKN3R3	E. CAPACITOR 25V 3.3U	2	
C2018	ECEA1EKA4R7	E. CAPACITOR 25V 4.7U	1	
C2019, 20	ECUM1H102KBN	C. CAPACITOR CH 50V 1000P	2	
C2021, 22	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	2	
C2023	ECUM1H222KBN	C. CAPACITOR CH 50V 2200P	1	
C2024, 25	ECEA1HKA2R2	E. CAPACITOR 50V 2.2U	2	
C2026	ECEA1HKNR22	E. CAPACITOR 50V 0.22U	1	
C2027	ECA1EM470	E. CAPACITOR 25V 47U	1	
C2028	ECEA1HKA010	E. CAPACITOR 50V 1U	1	
C2029	ECA1EM470	E. CAPACITOR 25V 47U	1	
C2030, 31	ECUM1E333KBN	C. CAPACITOR CH 25V 0.033U	2	
C2032	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C2033	ECA0JM221	E. CAPACITOR 6.3V 220U	1	
C2035	ECUM1E333KBN	C. CAPACITOR CH 25V 0.033U	1	
C2036	ECQV1H683JM	P. CAPACITOR 50V 0.068U	1	
C2037	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C2038-40	ECUM1E333KBN	C. CAPACITOR CH 25V 0.033U	3	
C2041, 42	ECUM1H680JCN	C. CAPACITOR CH 50V 68P	2	
C2043, 44	ECUM1C474ZFN	C. CAPACITOR CH 16V 0.47U	2	
C2045	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C2046	ECEA1HKA2R2	E. CAPACITOR 50V 2.2U	1	
C2053	ECEA1HKAR47	E. CAPACITOR 50V 0.47U	1	
C3001	ECUM1H620JCN	C. CAPACITOR CH 50V 62P	1	
C3002	ECUM1H181JCN	C. CAPACITOR CH 50V 180P	1	
C3003	ECUM1H220JCN	C. CAPACITOR CH 50V 22P	1	
C3004	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C3006	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C3007	ECEA0JKA221	E. CAPACITOR 6.3V 220U	1	
C3008	ECUM1H102KBN	C. CAPACITOR CH 50V 1000P	1	
C3009	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C3010	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1	
C3017, 18	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	2	
C3019	ECUM1H620JCN	C. CAPACITOR CH 50V 62P	1	
C3021	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C3023	ECEA1CKA470	E. CAPACITOR 16V 47U	1	
C3024	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C3027	ECEA0JKA470	E. CAPACITOR 6.3V 47U	1	
C3028	ECUM1H151JCN	C. CAPACITOR CH 50V 150P	1	
C3029	ECUM1H220JCN	C. CAPACITOR CH 50V 22P	1	
C3031	ECUM1H220JCN	C. CAPACITOR CH 50V 22P	1	
C3032	ECUM1H681JCN	C. CAPACITOR CH 50V 680P	1	
C3033	ECUM1H330JCN	C. CAPACITOR CH 50V 33P	1	
C3043	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C3046, 47	ECUM1H102KBN	C. CAPACITOR CH 50V 1000P	2	
C3055	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C3057	ECUM1H180JCN	C. CAPACITOR CH 50V 18P	1	
C3062	ECEA0JKA470	E. CAPACITOR 6.3V 47U	1	
C3063	ECEA1CKA100	E. CAPACITOR 16V 10U	1	
C3066	ECKF1H102KB	C. CAPACITOR 50V 1000P	1	
C3067	ECUM1H080DCN	C. CAPACITOR CH 50V 8P	1	
C4002-04	ECEA1CKA100	E. CAPACITOR 16V 10U	3	
C4005	ECGD2H181J	C. CAPACITOR 500V 180P	1	
C4006	ECEA1CKA330	E. CAPACITOR 16V 33U	1	
C4007	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
C4009	ECEA1CKA100	E. CAPACITOR 16V 10U	1	
C4010	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C4011	ECQP1222JZ	P. CAPACITOR 100V 2200P	1	
C4012	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
C4013	ECUM1H472KBN	C. CAPACITOR CH 50V 4700P	1	
C4014	ECQP1203JZ	P. CAPACITOR 100V 0.02U	1	[SUPPLIED FROM MBV]
C4015	ECUM1H391JCN	C. CAPACITOR CH 50V 390P	1	
C4016	ECEA1CKA330	E. CAPACITOR 16V 33U	1	
C4017	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1	
C4018-20	ECEA1HKA0R1	E. CAPACITOR 50V 0.1U	3	
C4021	ECUM1H153KBN	C. CAPACITOR CH 50V 0.015U	1	
C4022	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
C4023	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1	
C4024	ECUM1H272KBN	C. CAPACITOR CH 50V 2700P	1	
C4025, 26	ECEA1CKA220	E. CAPACITOR 16V 22U	2	
C4027	ECEA1HKA3R3	E. CAPACITOR 50V 3.3U	1	
C4028	ECEA1CKA470	E. CAPACITOR 16V 47U	1	
C4029	ECUM1H391JCN	C. CAPACITOR CH 50V 390P	1	
C4030	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1	
C4031	ECEA1AKA101	E. CAPACITOR 10V 100U	1	
C4032	ECUM1H822KBN	C. CAPACITOR CH 50V 8200P	1	
C4033, 34	ECUM1H471JCN	C. CAPACITOR CH 50V 470P	2	
C4038	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C4039	ECUM1H220JCN	C. CAPACITOR CH 50V 22P	1	
C4040	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1	
C4041	ECUM1H151JCN	C. CAPACITOR CH 50V 150P	1	
C4042	ECUM1H222KBN	C. CAPACITOR CH 50V 2200P	1	
C4044	ECEA1HKA4R7	E. CAPACITOR 50V 4.7U	1	
C4501	ECUX1H681JCV	C. CAPACITOR CH 50V 680P	1	
C4502	ECUX1H561JCV	C. CAPACITOR CH 50V 560P	1	
C4503	ECUX1H102KBV	C. CAPACITOR CH 50V 1000P	1	
C4506	ECEA1CU100	E. CAPACITOR 16V 10U	1	
C4507	ECQB1H223JF	P. CAPACITOR 50V 0.022U	1	
C4508	ECEA1EU4R7	E. CAPACITOR 25V 4.7U	1	
C4509	ECEA1AU470	E. CAPACITOR 10V 47U	1	
C4510	ECQB1H103JF	P. CAPACITOR 50V 0.01U	1	
C4511	ECQB1H332JF	P. CAPACITOR 50V 3300P	1	
C4512	ECUX1H561JCV	C. CAPACITOR CH 50V 560P	1	
C4513	ECUM1H681JCN	C. CAPACITOR CH 50V 680P	1	
C4514	ECUM1H561JCN	C. CAPACITOR CH 50V 560P	1	
C4515	ECEA1EU4R7	E. CAPACITOR 25V 4.7U	1	
C4521	ECUM1H473KBN	C. CAPACITOR CH 50V 0.047U	1	
C4522	ECEA1EU4R7	E. CAPACITOR 25V 4.7U	1	
C4530	ECEA0JU470	E. CAPACITOR 6.3V 47U	1	
C4533	ECEA1AU470	E. CAPACITOR 10V 47U	1	
C4537	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1	
C4538	ECEA1HUR47	E. CAPACITOR 50V 0.47U	1	
C4541	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C4551	ECQB1H223JF	P. CAPACITOR 50V 0.022U	1	
C4556	ECEA1CU100	E. CAPACITOR 16V 10U	1	
C4558	ECEA1EU4R7	E. CAPACITOR 25V 4.7U	1	
C4559	ECEA1AU470	E. CAPACITOR 10V 47U	1	
C4560	ECQB1H103JF	P. CAPACITOR 50V 0.01U	1	
C4561	ECQB1H332JF	P. CAPACITOR 50V 3300P	1	
C4562	ECUX1H561JCV	C. CAPACITOR CH 50V 560P	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C4565	ECEA1EU4R7	E. CAPACITOR 25V 4.7U	1	
C4568	ECFF1H104ZF5	C. CAPACITOR 50V 0.1U	1	
C4572	ECEA1EU4R7	E. CAPACITOR 25V 4.7U	1	
C4576	ECUM1H473KBN	C. CAPACITOR CH 50V 0.047U	1	
C4585, 86	ECEA0JU101	E. CAPACITOR 6.3V 100U	2	
C4587	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C4591	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C4592	ECUX1H102KBV	C. CAPACITOR CH 50V 1000P	1	
C4671, 72	ECEA1CU100	E. CAPACITOR 16V 10U	2	
C4674	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C4675	ECFF1H104ZF5	C. CAPACITOR 50V 0.1U	1	
C4676	ECA1VM470	E. CAPACITOR 35V 47U	1	
C4677	ECEA1CU470	E. CAPACITOR 16V 47U	1	
C5005	ECEA1HKA3R3	E. CAPACITOR 50V 3.3U	1	
C5006	ECUM1H150JCN	C. CAPACITOR CH 50V 15P	1	
C5007-09	ECUM1H330JCN	C. CAPACITOR CH 50V 33P	3	
C5012, 13	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	2	
C5014	ECEA0JKA470	E. CAPACITOR 6.3V 47U	1	
C5015, 16	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	2	
C5701	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C5702	ECEA1CKA100	E. CAPACITOR 16V 10U	1	
C5703	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C5704	ECEA0JKA221	E. CAPACITOR 6.3V 220U	1	
C5705, 06	ECUM1H121JCN	C. CAPACITOR CH 50V 120P	2	
C5707	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C5708, 09	ECEA1CKA100	E. CAPACITOR 16V 10U	2	
C5710	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C6001	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C6002	ECUM1C224ZFN	C. CAPACITOR CH 16V 0.22U	1	
C6003	ECEA1HKA2R2	E. CAPACITOR 50V 2.2U	1	
C6004	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C6005	ECEA0JKA470	E. CAPACITOR 6.3V 47U	1	
C6006	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C6007	ECEA0JKA101	E. CAPACITOR 6.3V 100U	1	
C6008	ECUM1H270JCN	C. CAPACITOR CH 50V 27P	1	
C6009	ECUM1H150JCN	C. CAPACITOR CH 50V 15P	1	
C6010	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C6011-14	ECUM1H271JCN	C. CAPACITOR CH 50V 270P	4	
C6015	ECEA1CKA100	E. CAPACITOR 16V 10U	1	
C6016	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C6017	ECUX1H561JCN	C. CAPACITOR CH 50V 560P	1	
C6018	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C6024	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C7302	ECEA1HKN2R2	E. CAPACITOR 50V 2.2U	1	
C7304	ECEA1HKN2R2	E. CAPACITOR 50V 2.2U	1	
C7308	ECUM1H181JCN	C. CAPACITOR CH 50V 180P	1	
C7309	ECUM1H152KBN	C. CAPACITOR CH 50V 1500P	1	
C7310	ECEA1CKA100	E. CAPACITOR 16V 10U	1	
C7311	ECEA1CKA101	E. CAPACITOR 16V 100U	1	
C7312	ECQB1H103JZ	P. CAPACITOR 50V 0.01U	1	
C7313	ECQV1H104JM	P. CAPACITOR 50V 0.1U	1	
C7314, 15	ECQB1H103JZ	P. CAPACITOR 50V 0.01U	2	
C7320, 21	ECEA1CKA100	E. CAPACITOR 16V 10U	2	
C7323, 24	ECUM1H153KBM	C. CAPACITOR CH 50V 0.015U	2	
C7325	ECUX1H223KBM	C. CAPACITOR CH 50V 0.022U	1	
C7326	ECEA1CKN100	E. CAPACITOR 16V 10U	1	
C7328	ECEA1CKA470	E. CAPACITOR 16V 47U	1	
C7330	ECEA1CKA100	E. CAPACITOR 16V 10U	1	
C7332, 33	ECUX1H102KBV	C. CAPACITOR CH 50V 1000P	2	
C7337	ECUX1H103ZFV	C. CAPACITOR CH 50V 0.01U	1	
C7339	ECUX1H103ZFV	C. CAPACITOR CH 50V 0.01U	1	
C7340	ECUM1H390JPN	C. CAPACITOR CH 50V 39P	1	
C7341	ECUX1H070DCV	C. CAPACITOR CH 50V 7P	1	
C7345	ECUX1H103ZFV	C. CAPACITOR CH 50V 0.01U	1	
C7346	ECUM1H390JPN	C. CAPACITOR CH 50V 39P	1	
C7347	ECUX1H070DCV	C. CAPACITOR CH 50V 7P	1	
C7349, 50	ECUX1H221JCV	C. CAPACITOR CH 50V 220P	2	
C7352	ECUX1H103ZFV	C. CAPACITOR CH 50V 0.01U	1	
C7353	ECEA1CKA470	E. CAPACITOR 16V 47U	1	
C7601, 02	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	2	
C7603	ECEA1CKA101	E. CAPACITOR 16V 100U	1	
C7604	ECEA0JKA101	E. CAPACITOR 6.3V 100U	1	
C7605	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C7606	ECEA1CKA101	E. CAPACITOR 16V 100U	1	
C7607	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C7608	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1	
C7609	ECEA0JKA101	E. CAPACITOR 6.3V 100U	1	
C7610, 11	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	2	
C7612	ECEA0JKA101	E. CAPACITOR 6.3V 100U	1	
C7613	ECUM1H180JCN	C. CAPACITOR CH 50V 18P	1	
C7614	ECEA1HKA100	E. CAPACITOR 50V 10U	1	
C7615	ECEA1HKA010	E. CAPACITOR 50V 1U	1	
C7616	ECUM1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
C7617	ECEA1AKS221	E. CAPACITOR 10V 220U	1	
C7701	ECUM1H150JCN	C. CAPACITOR CH 50V 15P	1	
C7702	ECUM1H080DCN	C. CAPACITOR CH 50V 8P	1	
C7703	ECUM1C224ZFN	C. CAPACITOR CH 16V 0.22U	1	
C7704, 05	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2	
C7706	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C7707-10	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	4	
C7712	ECEA0JKA470	E. CAPACITOR 6.3V 47U	1	
C7713	ECEA1CKA100	E. CAPACITOR 16V 10U	1	
C7714	ECEA0JKA470	E. CAPACITOR 6.3V 47U	1	
C7715	ECEA1CKN100	E. CAPACITOR 16V 10U	1	
C7716	ECUM1H120JCN	C. CAPACITOR CH 50V 12P	1	
C7718	ECUX1H561JCN	C. CAPACITOR CH 50V 560P	1	
C7719	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C7720	ECEA0JKA470	E. CAPACITOR 6.3V 47U	1	
C7721	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
C7722	ECUM1H270JCN	C. CAPACITOR CH 50V 27P	1	
C7723	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C7724	ECEA0JKA470	E. CAPACITOR 6.3V 47U	1	
C7727	ECEA0JKA470	E. CAPACITOR 6.3V 47U	1	
C7729	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C7731	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C7732	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1	
C7734	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C7736	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C7737	ECEA0JKA470	E. CAPACITOR 6.3V 47U	1	
C7738, 39	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2	
C7742	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C7743	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1	
C7744	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C7745	ECUM1C224ZFN	C. CAPACITOR CH 16V 0.22U	1	
C7746, 47	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2	
C7748	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1	
C7749	ECUM1H473ZFN	C. CAPACITOR CH 50V 0.047U	1	
C7750	ECUM1C224ZFN	C. CAPACITOR CH 16V 0.22U	1	
D301	MA723-VT	DIODE	1	
D302, 03	1SS355	DIODE	2	
D305	1SS355	DIODE	1	
D310, 11	1SS355	DIODE	2	
D313, 14	1SS355	DIODE	2	
D315, 16	1SS254	DIODE	2	
D317, 18	1SS355	DIODE	2	
D319	MA151K	DIODE	1	
D320	MA151WK	DIODE	1	
D321	1SS355	DIODE	1	
D801-04	1SS355	DIODE	4	
D1001	MA4051-L	DIODE	1	
D1003	MA4120-M	DIODE	1	
D1004	MA4051-L	DIODE	1	
D1005	1SS355	DIODE	1	
D1007, 08	1SS355	DIODE	2	
D1009	1SS254	DIODE	1	
D2001	MA153	DIODE	1	
D2002	MA151K	DIODE	1	
D2003-05	1SS355	DIODE	3	
D2006, 07	MA700	DIODE	2	
D2008, 09	MA185	DIODE	2	
D3001-03	1SS254	DIODE	3	
D3005	MA723-VT	DIODE	1	
D3015	1SS355	DIODE	1	
D3016	MA700A	DIODE	1	
D3050-53	1SS355	DIODE	4	
D3054	1SS254	DIODE	1	
D4001	1SS254	DIODE	1	
D4003-05	1SS254	DIODE	3	
D4504	1SS254	DIODE	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
D6001	LN59LT. VT	LED	1	
D6002	MA4075-L	DIODE	1	
D6003	MA151K	DIODE	1	
D6004, 05	1SS254	DIODE	2	
D6006	MA151K	DIODE	1	
D6007, 08	1SS254	DIODE	2	
D7304	MA29T-B	DIODE	1	
D7305	1SS254	DIODE	1	
D7307	MA151K	DIODE	1	
D7601	MA4300-M	DIODE	1	
D7602, 03	1SS254	DIODE	2	
D7702, 03	1SS355	DIODE	2	
D7704	MA700A	DIODE	1	
DL7701	ELB4Y026	FILTER	1	
IC301	TDA9725V2	IC	1	[SUPPLIED FROM MBV]
IC302	TL8850AF	IC	1	
IC0701	LA7576	IC	1	
IC851	TA1225N	IC	1	
IC1001	HA17431PA	IC	1	
IC2001	BA6887-V3	IC	1	
IC2002	BA6871BS	IC	1	
IC4001	BA7795FS	IC	1	
IC4501	BH7778AK	IC	1	
IC4502	BU4052BCF	IC	1	
IC4503	BA7735FS	IC	1	
IC5701	MM1188XS	IC	1	[SUPPLIED FROM MBV]
IC6001	MN6755486H4W	IC	1	[SUPPLIED FROM MBV]
IC6002, 03	ON1387	PHOTO INTERRUPTER	2	
IC7301	TDA9845	IC	1	
IC7302	TA8721SN	IC	1	
IC7701	M27C512MBXA	OSD EPROM	1	[SUPPLIED FROM MBV]
IC7702	74HCT573D	IC	1	
IC7703	NJM2535M	IC	1	[SUPPLIED FROM MBV]
IC7704	ST24W16FB6	IC	1	[SUPPLIED FROM MBV]
IC7705	TDA8501	IC	1	
IC7706	P83C528MAAC	IC	1	[SUPPLIED FROM MBV]
IC7707	MC74HC164FL2	IC	1	
IC7708	SAA5281ZPM3	IC	1	
IC7709	MC74HC161AF2	IC	1	
IC7710	UPC393G2	IC	1	
IC7711	PST7043	IC	1	
K309	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
K0702	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
K0704, 05	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	2	
K3005	ERJ6GMZ0R00	M. RESISTOR CH 1/10W 0	1	
K3040	ERJ6GMZ0R00	M. RESISTOR CH 1/10W 0	1	
K4001	ERJ6GMZ0R00	M. RESISTOR CH 1/10W 0	1	
K4003	ERJ6GMZ0R00	M. RESISTOR CH 1/10W 0	1	
K4009	ERJ6GMZ0R00	M. RESISTOR CH 1/10W 0	1	
K4503, 04	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	2	
K4651	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
K6001, 02	ERJ6GMZ0R00	M. RESISTOR CH 1/10W 0	2	
K7302	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
K7315	ERJ3GEYG302	M. RESISTOR CH 1/16W 3K	1	
K7316	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
K7604	ERJ6GMZ0R00	M. RESISTOR CH 1/10W 0	1	
K7619	ERJ6GMZ0R00	M. RESISTOR CH 1/10W 0	1	
K7704	ERJ6GMZ0R00	M. RESISTOR CH 1/10W 0	1	
K7706	ERJ6GMZ0R00	M. RESISTOR CH 1/10W 0	1	
K7709	ERJ6GMZ0R00	M. RESISTOR CH 1/10W 0	1	
L301	VLQ0599J151	COIL 150UH	1	
L302, 03	VLQ0599J100	COIL 10UH	2	
L304	VLQ0599J390	COIL 39UH	1	
L305	VLQ0599J470	COIL 47UH	1	
L306	VLQ0599J101	COIL 100UH	1	
L307	VLQ0599J270	COIL 27UH	1	
L308	VLQ0599J100	COIL 10UH	1	
L309	VLQ0599J470	COIL 47UH	1	
L311, 12	VLQ0599J680	COIL 68UH	2	
L313, 14	VLQ0599J390	COIL 39UH	2	
L315	VLQ0599J101	COIL 100UH	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
L0701	VLQ0163JR27	COIL 0.27UH	1	[SUPPLIED FROM MBV]
L0705	VLQ0163J5R6	COIL 5.6UH	1	
L0706	VLQEL05S150K	COIL 15UH	1	
L801	VLQ0599J101	COIL 100UH	1	
L851,52	VLQ0599J680	COIL 68UH	2	
L853-57	ERJ6GMZOR00	M.RESISTOR CH 1/10W 0	5	
L2001	VLP0083	COIL	1	
L3001	VLQ0599J820	COIL 82UH	1	
L3002	VLQ0599J151	COIL 150UH	1	
L3003	VLQ0599J6R8	COIL 6.8UH	1	
L3004	VLQ0599J120	COIL 12UH	1	
L3006	VLQ0599J101	COIL 100UH	1	
L3008	VLQ0599J270	COIL 27UH	1	
L3009	VLQ0599J680	COIL 68UH	1	
L3012	VLQ0599J680	COIL 68UH	1	
L3013	VLP0099	COIL	1	
L4001	ELESE101KA	COIL 100UH	1	
L4002	ELESN471KA	INDUCTOR 470UH	1	
L4003	VLQ0599J680	COIL 68UH	1	
L4005,06	VLP0150	COIL	2	
L4007	VLQ0123	COIL	1	
L5001	VLQ0599J680	COIL 68UH	1	
L5002,03	VLQ0599J270	COIL 27UH	2	
L5004	VLQ0599J150	COIL 15UH	1	
L5701	VLQ0599J680	COIL 68UH	1	
L5702	VLQ0599J101	COIL 100UH	1	
L6001	ELESE101KA	COIL 100UH	1	
L6002	VLP0083	COIL	1	
L6003,04	VLQ0599J680	COIL 68UH	2	
L7601,02	VLQ0599J1R0	COIL 1UH	2	
L7603-05	VLQ0599J680	COIL 68UH	3	
L7606	VLQ0599J2R2	COIL 2.2UH	1	
L7607,08	VLQ0599J680	COIL 68UH	2	
L7701	VLQ0599J100	COIL 10UH	1	
L7702	VLQ0599J3R3	COIL 3.3UH	1	
L7703	VLQ0599J270	COIL 27UH	1	
L7704	VLQ0599J100	COIL 10UH	1	
L7705	VLQ0599J101	COIL 100UH	1	
L7707	VLQ0599J120	COIL 12UH	1	
LB303-06	VLP0145	COIL	4	
LB307-11	ERJ6GEYOR00	M.RESISTOR CH 1/10W 0	5	
LB5701	ERJ6GEYOR00	M.RESISTOR CH 1/10W 0	1	
P851	VJR0777B011W	CONNECTOR (MALE) 11P	1	
P2001	VJS3640A002	CONNECTOR (FEMALE) 2P	1	
P2002	VJS3537A015G	CONNECTOR (FEMALE) 15P	1	
P2003	VJP3502	CONNECTOR (MALE)	1	
P2004	VJP1232T	CONNECTOR (MALE) 5P	1	
P3002	VJS3537A020G	CONNECTOR (FEMALE) 20P	1	
P4002	VJS3675E006G	CONNECTOR (FEMALE) 6P	1	
P4003	VJP1230T	CONNECTOR (MALE) 3P	1	
P5001	VJR0777B005W	CONNECTOR (MALE) 5P	1	
P5701	VJR0777B006W	CONNECTOR (MALE) 6P	1	
P6001	VJS3821	CONNECTOR (FEMALE) 4P	1	
PK301	VJR0776B010W	CONNECTOR (MALE) 10P	1	[SUPPLIED FROM MBV]
PK302	VJR0776B011W	CONNECTOR (MALE) 11P	1	[SUPPLIED FROM MBV]
PK303	VJR0776B012W	CONNECTOR (MALE) 12P	1	[SUPPLIED FROM MBV]
PK304	VJR0776B003W	CONNECTOR (MALE) 3P	1	
PK0701	VJR0816E010W	CONNECTOR (MALE) 10P	1	
PK4501	VJR0777B008W	CONNECTOR (MALE) 8P	1	
PK4502	VJR0777B013W	CONNECTOR (MALE) 13P	1	
PK4503	VJR0777B010W	CONNECTOR (MALE) 10P	1	
PK7301	VJR0777B007W	CONNECTOR (MALE) 7P	1	
PK7302	VJR0777B005W	CONNECTOR (MALE) 5P	1	
PP0701	VJP3589A004B	CONNECTOR (MALE) 4P	1	
PP3002	VJP3042G013W	CONNECTOR (MALE) 13P	1	
PP3003,04	VJP3042G007W	CONNECTOR (MALE) 7P	2	
PP3005	VJP3042G010W	CONNECTOR (MALE) 10P	1	
PS3001	VJS3673F014G	CONNECTOR (FEMALE) 14P	1	[SUPPLIED FROM MBV]
PS3006	VJS3631A011A	CONNECTOR (FEMALE) 11P	1	
PS6002	VJS3673B025G	CONNECTOR (FEMALE) 25P	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
Q301,02	MSD601	TRANSISTOR	2	
Q304	MSC2295	TRANSISTOR	1	
Q305	MSD601	TRANSISTOR	1	
Q306	MSB709	TRANSISTOR	1	
Q307	MSB709-R	TRANSISTOR	1	
Q308	MSB709	TRANSISTOR	1	
Q309	MSC2295	TRANSISTOR	1	
Q310	MSD601	TRANSISTOR	1	
Q0701	MSD601-S	TRANSISTOR	1	
Q0702	MSB709-R	TRANSISTOR	1	
Q801	MSB709	TRANSISTOR	1	
Q803	MSC2295	TRANSISTOR	1	
Q804	MSB709	TRANSISTOR	1	
Q805	MSD601	TRANSISTOR	1	
Q1001	2SD601A	TRANSISTOR	1	
Q1002-04	2SD1996-S	TRANSISTOR	3	
Q1005	2SD601A	TRANSISTOR	1	
Q1006	MSD602	TRANSISTOR	1	
Q1007	2SD2544OPQA	TRANSISTOR	1	
Q3001	MSC2295	TRANSISTOR	1	
Q3002	MSB709	TRANSISTOR	1	
Q3003,04	MSD601	TRANSISTOR	2	
Q3005	MSC2295	TRANSISTOR	1	
Q3006	MSB709	TRANSISTOR	1	
Q3007	MSC2295	TRANSISTOR	1	
Q3010	MSB709-R	TRANSISTOR	1	
Q3011	2SD601A	TRANSISTOR	1	
Q3012	2SB1322	TRANSISTOR	1	
Q3017	MSC2295	TRANSISTOR	1	
Q3020	MSD601	TRANSISTOR	1	
Q3023	MSC2295	TRANSISTOR	1	
Q3024	MSD601	TRANSISTOR	1	
Q4001	2SB709A-R	TRANSISTOR	1	
Q4002	2SD602A-R	TRANSISTOR	1	
Q4003,04	MSD601	TRANSISTOR	2	
Q4005	2SB1320A-R	TRANSISTOR	1	
Q4006	2SD602A-R	TRANSISTOR	1	
Q4007-09	MSD601-R	TRANSISTOR	3	
Q4501	2SD1468	TRANSISTOR	1	
Q4551	2SA1515	TRANSISTOR	1	
Q5001	MSB709	TRANSISTOR	1	
Q5002	MSD601	TRANSISTOR	1	
Q5003	2SA1022	TRANSISTOR	1	
Q5005	XN1501	TRANSISTOR-RESISTOR	1	
Q5006	MSB709	TRANSISTOR	1	
Q5007	MSC2295	TRANSISTOR	1	
Q5008	MSB709	TRANSISTOR	1	
Q5009-13	MSC2295	TRANSISTOR	5	
Q5701	MSC2295	TRANSISTOR	1	
Q6001	MSB709	TRANSISTOR	1	
Q6002,03	PN205LT-NGVT	PHOTO TRANSISTOR	2	
Q7301	MSD601-S	TRANSISTOR	1	
Q7602	MSD601	TRANSISTOR	1	
Q7603	2SB710A	TRANSISTOR	1	
Q7703	MSB709	TRANSISTOR	1	
Q7704,05	MSD601	TRANSISTOR	2	
Q7706	MSB709	TRANSISTOR	1	
QR302	MUN2113	TRANSISTOR-RESISTOR	1	
QR303	MUN2212	TRANSISTOR-RESISTOR	1	
QR304	MUN2113	TRANSISTOR-RESISTOR	1	
QR305	MUN2213	TRANSISTOR-RESISTOR	1	
QR311	MUN2113	TRANSISTOR-RESISTOR	1	
QR315	MUN2213	TRANSISTOR-RESISTOR	1	
QR317	MUN2213	TRANSISTOR-RESISTOR	1	
QR319	UN2210	TRANSISTOR-RESISTOR	1	
QR1001,02	MUN2113	TRANSISTOR-RESISTOR	2	
QR1003	MUN2211	TRANSISTOR-RESISTOR	1	
QR3001	MUN2111	TRANSISTOR-RESISTOR	1	
QR3002,03	DTC363EK	TRANSISTOR-RESISTOR	2	
QR3004	MUN2113	TRANSISTOR-RESISTOR	1	
QR3007	MUN2111	TRANSISTOR-RESISTOR	1	
QR3008-12	MUN2212	TRANSISTOR-RESISTOR	5	
QR3018	MUN2212	TRANSISTOR-RESISTOR	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
QR3026	MUN2212	TRANSISTOR-RESISTOR	1	
QR4001, 02	MUN2212	TRANSISTOR-RESISTOR	2	
QR4651, 52	UN5213	TRANSISTOR-RESISTOR	2	
QR6001	XN1211	TRANSISTOR-RESISTOR	1	
QR6002	UN2114	TRANSISTOR-RESISTOR	1	
QR6004	XN1213	TRANSISTOR-RESISTOR	1	
QR6005	MUN2112	TRANSISTOR-RESISTOR	1	
QR6006	XN1211	TRANSISTOR-RESISTOR	1	
QR6007	MUN2211	TRANSISTOR-RESISTOR	1	
QR7304	MUN2213	TRANSISTOR-RESISTOR	1	
QR7601, 02	MUN2213	TRANSISTOR-RESISTOR	2	
QR7701	UN2216	TRANSISTOR-RESISTOR	1	
QR7702	UN2215	TRANSISTOR-RESISTOR	1	
QR7703	MUN2113	TRANSISTOR-RESISTOR	1	
R303	ERJ3GEYJ182	M. RESISTOR CH 1/16W 1.8K	1	
R304	ERJ3GEYJ225	M. RESISTOR CH 1/16W 2.2M	1	
R305	ERJ3GEYG682	M. RESISTOR CH 1/16W 6.8K	1	
R306	ERJ3GEYJ392	M. RESISTOR CH 1/16W 3.9K	1	
R307	ERJ3GEYJ271	M. RESISTOR CH 1/16W 270	1	
R308	ERJ3GEYG102	M. RESISTOR CH 1/16W 1K	1	
R309	ERJ3GEYJ271	M. RESISTOR CH 1/16W 270	1	
R310, 11	ERJ3GEYG152	M. RESISTOR CH 1/16W 1.5K	2	
R312	ERJ3GEYG472	M. RESISTOR CH 1/16W 4.7K	1	
R313	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1	
R314	ERJ3GEYJ683	M. RESISTOR CH 1/16W 68K	1	
R315	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	1	
R316	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R317	ERJ3GEYG472	M. RESISTOR CH 1/16W 4.7K	1	
R319	ERJ3GEYJ183	M. RESISTOR CH 1/16W 18K	1	
R320	ERJ3GEYJ821	M. RESISTOR CH 1/16W 820	1	
R321	ERJ3GEYJ120	M. RESISTOR CH 1/16W 12	1	
R322	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	1	
R323	ERJ3GEYG102	M. RESISTOR CH 1/16W 1K	1	
R324, 25	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	2	
R326	ERJ3GEYJ242	M. RESISTOR CH 1/16W 2.4K	1	
R327	ERJ3GEYG102	M. RESISTOR CH 1/16W 1K	1	
R328	ERJ3GEYJ272	M. RESISTOR CH 1/16W 2.7K	1	
R329	ERJ3GEYJ182	M. RESISTOR CH 1/16W 1.8K	1	
R330	ERJ3GEYJ122	M. RESISTOR CH 1/16W 1.2K	1	
R332	ERJ3GEYJ390	M. RESISTOR CH 1/16W 39	1	
R333	ERJ3GEYJ561	M. RESISTOR CH 1/16W 560	1	
R335	ERJ3GEYJ122	M. RESISTOR CH 1/16W 1.2K	1	
R337	ERJ3GEYJ561	M. RESISTOR CH 1/16W 560	1	
R338	ERJ3GEYG471	M. RESISTOR CH 1/16W 470	1	
R339	ERJ3GEYJ333	M. RESISTOR CH 1/16W 33K	1	
R340	ERJ3GEYJ182	M. RESISTOR CH 1/16W 1.8K	1	
R341	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R344	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1	
R346, 47	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	2	
R350	ERJ3GEYG152	M. RESISTOR CH 1/16W 1.5K	1	
R352	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1	
R353	ERJ3GEYG102	M. RESISTOR CH 1/16W 1K	1	
R354	ERJ3GEYJ681	M. RESISTOR CH 1/16W 680	1	
R355	ERJ3GEYJ331	M. RESISTOR CH 1/16W 330	1	
R356, 57	ERJ3GEYJ821	M. RESISTOR CH 1/16W 820	2	
R359	ERJ3GEYG102	M. RESISTOR CH 1/16W 1K	1	
R360	ERJ3GEYJ221	M. RESISTOR CH 1/16W 220	1	
R367	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R369	ERJ3GEYJ393	M. RESISTOR CH 1/16W 39K	1	
R373	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1	
R374	ERJ3GEYG102	M. RESISTOR CH 1/16W 1K	1	
R375	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R0704	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1	
R0705	ERJ3GEYJ562	M. RESISTOR CH 1/16W 5.6K	1	
R0706, 07	ERJ3GEYJ272	M. RESISTOR CH 1/16W 2.7K	2	
R0708	ERJ3GEYG152	M. RESISTOR CH 1/16W 1.5K	1	
R0709	ERJ3GEYJ105	M. RESISTOR CH 1/16W 1M	1	
R0710	ERJ6GEYG154	M. RESISTOR CH 1/10W 150K	1	
R0713	ERJ3GEYG471	M. RESISTOR CH 1/16W 470	1	
R0714	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R0715	ERJ3GEYJ183	M. RESISTOR CH 1/16W 18K	1	
R0716	VRE0040E151	M. RESISTOR CH 1/10W 150	1	
R0717	ERJ3GEYJ330	M. RESISTOR CH 1/16W 33	1	
R0718	ERJ3GEYG102	M. RESISTOR CH 1/16W 1K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R0719	ERJ6GEYF822	M. RESISTOR CH 1/10W 8.2K	1	
R0720	ERJ3GEYG102	M. RESISTOR CH 1/16W 1K	1	
R0722	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R0728	ERJ3GEYG471	M. RESISTOR CH 1/16W 470	1	
R0729	ERJ3GEYG102	M. RESISTOR CH 1/16W 1K	1	
R0732	ERJ3GEYG471	M. RESISTOR CH 1/16W 470	1	
R0783	ERJ3GEYJ393	M. RESISTOR CH 1/16W 39K	1	
R801	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1	
R802	ERJ3GEYG681	M. RESISTOR CH 1/16W 680	1	
R803	ERJ3GEYG182	M. RESISTOR CH 1/16W 1.8K	1	
R810	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R811	ERJ3GEYJ273	M. RESISTOR CH 1/16W 27K	1	
R812	ERJ3GEYJ563	M. RESISTOR CH 1/16W 56K	1	
R813	ERJ3GEYG561	M. RESISTOR CH 1/16W 560	1	[SUPPLIED FROM MBV]
R814	ERJ3GEYG103	M. RESISTOR CH 1/16W 10K	1	
R815	ERJ3GEYG681	M. RESISTOR CH 1/16W 680	1	
R816	ERJ3GEYG181	M. RESISTOR CH 1/16W 180	1	
R817	ERJ3GEYG101	M. RESISTOR CH 1/16W 100	1	[SUPPLIED FROM MBV]
R818	ERJ3GEYG242	M. RESISTOR CH 1/16W 2.4K	1	
R852	ERJ6GMYG821	M. RESISTOR CH 1/10W 820	1	
R853	ERJ6GMYG203	M. RESISTOR CH 1/10W 20K	1	
R1001	ERJ6GMYG333	M. RESISTOR CH 1/10W 33K	1	
R1002	ERDS2TJ102	C. RESISTOR 1/4W 1K	1	
R1003	ERJ6GMYG272	M. RESISTOR CH 1/10W 2.7K	1	
R1004	ERJ6GMYJ363	M. RESISTOR CH 1/10W 36K	1	
R1005	ERJ6GMYG272	M. RESISTOR CH 1/10W 2.7K	1	
R1006	ERDS2TJ122	C. RESISTOR 1/4W 1.2K	1	
R1007	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R1008	ERJ6GMYG333	M. RESISTOR CH 1/10W 33K	1	
R1009, 10	ERJ6GMYG562	M. RESISTOR CH 1/10W 5.6K	2	
R1011	ERDS1TJ272	C. RESISTOR 1/2W 2.7K	1	
R2001	ERJ6GMYG913	M. RESISTOR CH 1/10W 91K	1	
R2002-04	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	3	
R2005	ERX1SJ1R8	M. RESISTOR 1W 1.8	1	
R2006	ERJ6GMYG512	M. RESISTOR CH 1/10W 5.1K	1	
R2007	ERJ6GMYG222	M. RESISTOR CH 1/10W 2.2K	1	
R2009, 10	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	2	
R2011	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R2012	ERJ6GMYJ221	M. RESISTOR CH 1/10W 220	1	
R2013	ERJ6GMYG272	M. RESISTOR CH 1/10W 2.7K	1	
R2014, 15	ERJ6GMYJ223	M. RESISTOR CH 1/10W 22K	2	
R2016	ERJ6GMYG222	M. RESISTOR CH 1/10W 2.2K	1	
R2017, 18	ERJ6GMYJ223	M. RESISTOR CH 1/10W 22K	2	
R2019	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R2020	ERJ6GMYG471	M. RESISTOR CH 1/10W 470	1	
R2021	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R2022	ERJ6GMYG222	M. RESISTOR CH 1/10W 2.2K	1	
R2023	EROS2CKG8200	M. RESISTOR 1/4W 820	1	
R2024	EROS2CKG6800	M. RESISTOR 1/4W 680	1	
R2025	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R2026, 27	ERDS2TJ560	C. RESISTOR 1/4W 56	2	
R2028	ERDS1TJ561	C. RESISTOR 1/2W 560	1	
R2029	ERJ6GMYG222	M. RESISTOR CH 1/10W 2.2K	1	
R2030	ERJ6GMYG432	M. RESISTOR CH 1/10W 4.3K	1	
R2031	ERJ6GMYG473	M. RESISTOR CH 1/10W 47K	1	
R2032	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R2033	ERJ6GMYJ684	M. RESISTOR CH 1/10W 680K	1	
R2034	ERJ6GMYG133	M. RESISTOR CH 1/10W 13K	1	
R2035	ERJ6GMYJ105	M. RESISTOR CH 1/10W 1M	1	
R2036, 37	ERJ6GMYG472	M. RESISTOR CH 1/10W 4.7K	2	
R2038	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R2039, 40	ERJ6GMYJ105	M. RESISTOR CH 1/10W 1M	2	
R2041, 42	ERJ6GMYG392	M. RESISTOR CH 1/10W 3.9K	2	
R2043	ERDS2TJ560	C. RESISTOR 1/4W 56	1	
R2044	ERX12SJR47	M. RESISTOR 1/2W 0.47	1	
R2050	ERJ6GMYG332	M. RESISTOR CH 1/10W 3.3K	1	
R2051	ERJ6GMZOR00	M. RESISTOR CH 1/10W 0	1	
R3001	ERJ6GMYG561	M. RESISTOR CH 1/10W 560	1	
R3002	ERJ6GMYG472	M. RESISTOR CH 1/10W 4.7K	1	
R3003	ERJ6GMYG222	M. RESISTOR CH 1/10W 2.2K	1	
R3004	ERJ6GMYG272	M. RESISTOR CH 1/10W 2.7K	1	
R3005	ERJ6GMYG332	M. RESISTOR CH 1/10W 3.3K	1	
R3006	ERDS2TJ472	C. RESISTOR 1/4W 4.7K	1	
R3007	ERJ6GMYG681	M. RESISTOR CH 1/10W 680	1	
R3008	ERJ6GMYG222	M. RESISTOR CH 1/10W 2.2K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R3009	ERJ6GMYG392	M.RESISTOR CH 1/10W 3.9K	1	
R3012	ERDS2T0	C.RESISTOR 1/4W 0	1	
R3013	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R3014	ERDS2TJ102	C.RESISTOR 1/4W 1K	1	
R3015	ERJ6GMYG222	M.RESISTOR CH 1/10W 2.2K	1	
R3018	ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R3019,20	ERJ6GMYG561	M.RESISTOR CH 1/10W 560	2	
R3021	ERJ6GMYJ391	M.RESISTOR CH 1/10W 390	1	
R3022	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R3023,24	ERJ6GMYG821	M.RESISTOR CH 1/10W 820	2	
R3025	ERJ6GMYG152	M.RESISTOR CH 1/10W 1.5K	1	
R3026	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R3029	ERJ6GMYG222	M.RESISTOR CH 1/10W 2.2K	1	
R3030	ERJ6GEYG103	M.RESISTOR CH 1/10W 10K	1	
R3031	ERJ6GEYG102	M.RESISTOR CH 1/10W 1K	1	
R3032	ERJ6GMYG334	M.RESISTOR CH 1/10W 330K	1	
R3033	ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R3034	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R3037	ERDS2TJ102	C.RESISTOR 1/4W 1K	1	
R3039	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R3049	ERJ6GMYG821	M.RESISTOR CH 1/10W 820	1	
R3050	ERJ6GMYG123	M.RESISTOR CH 1/10W 12K	1	
R3051	ERJ6GMYG302	M.RESISTOR CH 1/10W 3K	1	
R3052	ERJ6GMYG272	M.RESISTOR CH 1/10W 2.7K	1	
R3053	ERJ6GMYG302	M.RESISTOR CH 1/10W 3K	1	
R3054	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R3064,65	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	2	
R3076,77	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	2	
R3078	ERDS2T0	C.RESISTOR 1/4W 0	1	
R3079	ERJ6GMYG472	M.RESISTOR CH 1/10W 4.7K	1	
R3080	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R3090	ERJ6GMYG104	M.RESISTOR CH 1/10W 100K	1	
R4003	ERJ6GMYG100	M.RESISTOR CH 1/10W 10	1	
R4004,05	ERJ6GMYG472	M.RESISTOR CH 1/10W 4.7K	2	
R4006	ERJ6GMYG333	M.RESISTOR CH 1/10W 33K	1	
R4007	ERJ6GMYG153	M.RESISTOR CH 1/10W 15K	1	
R4008,09	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	2	
R4010	ERJ6GMYG273	M.RESISTOR CH 1/10W 27K	1	
R4011	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R4012	ERJ6GMYG123	M.RESISTOR CH 1/10W 12K	1	
R4013	ERJ6GMYJ163	M.RESISTOR CH 1/10W 16K	1	
R4014	ERJ6GMYG562	M.RESISTOR CH 1/10W 5.6K	1	
R4015	ERJ6GMYG333	M.RESISTOR CH 1/10W 33K	1	
R4016	ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R4017	ERJ6GMYG133	M.RESISTOR CH 1/10W 1.3K	1	
R4019	ERJ6GMYJ105	M.RESISTOR CH 1/10W 1M	1	
R4020	ERJ6GMYG123	M.RESISTOR CH 1/10W 12K	1	
R4021	ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
R4022	ERJ6GMYG331	M.RESISTOR CH 1/10W 330	1	
R4023	ERJ6GMYG394	M.RESISTOR CH 1/10W 390K	1	
R4024	ERDS2TJ221	C.RESISTOR 1/4W 220	1	
R4025	ERJ6GMYG682	M.RESISTOR CH 1/10W 6.8K	1	
R4026	ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
R4027	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R4028	ERJ6GMYG622	M.RESISTOR CH 1/10W 6.2K	1	
R4029	ERJ6GMYG133	M.RESISTOR CH 1/10W 13K	1	
R4030	ERJ6GMYG562	M.RESISTOR CH 1/10W 5.6K	1	
R4031	ERJ6GMYG222	M.RESISTOR CH 1/10W 2.2K	1	
R4032	ERJ6GMYG471	M.RESISTOR CH 1/10W 470	1	
R4033	ERJ6GMYG331	M.RESISTOR CH 1/10W 330	1	
R4034	ERJ6GMYG203	M.RESISTOR CH 1/10W 20K	1	
R4035,36	ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	2	
R4037	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R4038	ERJ6GMYG332	M.RESISTOR CH 1/10W 3.3K	1	
R4039	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R4041,42	ERJ6GMYG393	M.RESISTOR CH 1/10W 39K	2	
R4043	ERG2SJ821	M.RESISTOR 2W 820	1	
R4044	ERDS1TJ222	C.RESISTOR 1/2W 2.2K	1	
R4047	ERJ6GMYG104	M.RESISTOR CH 1/10W 100K	1	
R4048	ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
R4049	ERJ6GMYG682	M.RESISTOR CH 1/10W 6.8K	1	
R4050	ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	
R4051	ERJ6GMYG682	M.RESISTOR CH 1/10W 6.8K	1	
R4054	ERJ6GMZOR00	M.RESISTOR CH 1/10W 0	1	
R4055	ERJ6GMYG153	M.RESISTOR CH 1/10W 15K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R4056	ERJ6GMYG393	M.RESISTOR CH 1/10W 39K	1	
R4057	ERJ6GMYG272	M.RESISTOR CH 1/10W 2.7K	1	
R4058	ERJ6GMYG472	M.RESISTOR CH 1/10W 4.7K	1	
R4059	ERJ6GMYG332	M.RESISTOR CH 1/10W 3.3K	1	
R4062,63	ERJ6GMYG243	M.RESISTOR CH 1/10W 24K	2	
R4064	ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	
R4065	ERJ6GMZOR00	M.RESISTOR CH 1/10W 0	1	
R4066	ERJ6GMYG361	M.RESISTOR CH 1/10W 360	1	
R4067,68	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	2	
R4069,70	ERJ6GMYJ683	M.RESISTOR CH 1/10W 68K	2	
R4071	ERJ6GMZOR00	M.RESISTOR CH 1/10W 0	1	
R4073	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R4503	ERJ3RBD203	M.RESISTOR CH 1/16W 20K	1	[SUPPLIED FROM MBV]
R4504	ERJ3GEYG224	M.RESISTOR CH 1/16W 220K	1	
R4508	ERJ3GEYG224	M.RESISTOR CH 1/16W 220K	1	
R4512	ERJ3RBD123	M.RESISTOR CH 1/16W 12K	1	
R4513	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R4517,18	ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	2	
R4519,20	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R4522	ERJ3GEYK225	M.RESISTOR CH 1/16W 2.2M	1	
R4528	ERJ3RBD153	M.RESISTOR CH 1/16W 15K	1	
R4529	ERJ3GEYG562	M.RESISTOR CH 1/16W 5.6K	1	
R4530	ERJ3GEYJ334	M.RESISTOR CH 1/16W 330K	1	
R4534	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R4542	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R4562	ERJ3RBD912	M.RESISTOR CH 1/16W 9.1K	1	[SUPPLIED FROM MBV]
R4563	ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R4584	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R4585	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	1	
R4586	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R4598	ERJ6RED124	M.RESISTOR CH 1/10W 120K	1	[SUPPLIED FROM MBV]
R4599	ERJ6RED114	M.RESISTOR CH 1/10W 110K	1	[SUPPLIED FROM MBV]
R4601	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R4603-05	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	3	
R4606	ERJ6GEYF473	M.RESISTOR CH 1/10W 47K	1	
R4607	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R4608	ERDS2TJ103	C.RESISTOR 1/4W 10K	1	
R4621	ERJ6GEYG163	M.RESISTOR CH 1/10W 16K	1	
R4623	ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R4624	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R4695,96	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	2	
R4697	ERJ6GEYG562	M.RESISTOR CH 1/10W 5.6K	1	
R5003	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R5004	ERJ6GMYG271	M.RESISTOR CH 1/10W 270	1	
R5005	ERJ6GMYG472	M.RESISTOR CH 1/10W 4.7K	1	
R5006	ERJ6GMYJ124	M.RESISTOR CH 1/10W 120K	1	
R5007	ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R5012	ERJ6GMYG563	M.RESISTOR CH 1/10W 56K	1	
R5013	ERJ6GMYG123	M.RESISTOR CH 1/10W 12K	1	
R5014	ERJ6GMYG223	M.RESISTOR CH 1/10W 22K	1	
R5016,17	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	2	
R5018	ERJ6GMYG123	M.RESISTOR CH 1/10W 12K	1	
R5019	ERJ6GMYG682	M.RESISTOR CH 1/10W 6.8K	1	
R5020	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R5021,22	ERJ6GMYG681	M.RESISTOR CH 1/10W 680	2	
R5023	ERJ6GMYG271	M.RESISTOR CH 1/10W 270	1	
R5025	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R5027	ERJ6GMYG122	M.RESISTOR CH 1/10W 1.2K	1	
R5028,29	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	2	
R5030	ERJ6GMYG471	M.RESISTOR CH 1/10W 470	1	
R5031	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R5701-04	ERJ6GEYG102	M.RESISTOR CH 1/10W 1K	4	
R5705	ERJ6GEYG152	M.RESISTOR CH 1/10W 1.5K	1	
R5706,07	ERJ6GEYG102	M.RESISTOR CH 1/10W 1K	2	
R5708	ERJ6GEYF333	M.RESISTOR CH 1/10W 33K	1	
R6001	ERJ6GMYJ201	M.RESISTOR CH 1/10W 200	1	
R6002	ERJ6GMYG272	M.RESISTOR CH 1/10W 2.7K	1	
R6003-05	ERJ6GMYG333	M.RESISTOR CH 1/10W 33K	3	
R6006,07	ERJ6GMYG223	M.RESISTOR CH 1/10W 22K	2	
R6008	ERJ6GMYG272	M.RESISTOR CH 1/10W 2.7K	1	
R6009	ERJ6GEYG103	M.RESISTOR CH 1/10W 10K	1	
R6010	ERJ6GMYG272	M.RESISTOR CH 1/10W 2.7K	1	
R6011	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R6012,13	ERJ6GMYG101	M.RESISTOR CH 1/10W 100	2	
R6015	ERJ6GMYG104	M.RESISTOR CH 1/10W 100K	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R6016	ERJ6GMYJ683	M. RESISTOR CH 1/10W 68K	1	
R6017	ERDS2TJ103	C. RESISTOR 1/4W 10K	1	
R6019	ERDS2TJ473	C. RESISTOR 1/4W 47K	1	
R6020	ERJ6GMYG104	M. RESISTOR CH 1/10W 100K	1	
R6021-23	ERJ6GMYG101	M. RESISTOR CH 1/10W 100	3	
R6024	ERJ6GMYG222	M. RESISTOR CH 1/10W 2.2K	1	
R6025	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R6026	ERJ6GMYG473	M. RESISTOR CH 1/10W 47K	1	
R6027	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R6028	ERJ6GMYG392	M. RESISTOR CH 1/10W 3.9K	1	
R6029, 30	ERJ6GMYG272	M. RESISTOR CH 1/10W 2.7K	2	
R6031, 32	ERJ6GMYJ221	M. RESISTOR CH 1/10W 220	2	
R6033	ERJ6GMYG272	M. RESISTOR CH 1/10W 2.7K	1	
R6034	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R6035, 36	ERJ6GMYJ221	M. RESISTOR CH 1/10W 220	2	
R6037, 38	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	2	
R6039	ERDS2TJ271	C. RESISTOR 1/4W 270	1	
R6040, 41	ERJ6GMYJ683	M. RESISTOR CH 1/10W 68K	2	
R6043	ERJ6GMZOR00	M. RESISTOR CH 1/10W 0	1	
R6044	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R6046-48	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	3	
R6049	ERDS2TJ102	C. RESISTOR 1/4W 1K	1	
R6050	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R6052	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R6054	ERJ6GMYG472	M. RESISTOR CH 1/10W 4.7K	1	
R6055	ERJ6GMYG183	M. RESISTOR CH 1/10W 18K	1	
R6056-58	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	3	
R6059	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R6060	ERJ6GMYG822	M. RESISTOR CH 1/10W 8.2K	1	
R6061	ERJ6GMYG243	M. RESISTOR CH 1/10W 24K	1	
R6062	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R6063	ERJ6GMYG334	M. RESISTOR CH 1/10W 330K	1	
R6064	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R6065	ERJ6GMYG334	M. RESISTOR CH 1/10W 330K	1	
R7302	ERJ3GEYG133	M. RESISTOR CH 1/16W 13K	1	
R7303	ERJ3GEYG222	M. RESISTOR CH 1/16W 2.2K	1	
R7304	ERJ3GEYG392	M. RESISTOR CH 1/16W 3.9K	1	
R7305	ERJ3GEYG562	M. RESISTOR CH 1/16W 5.6K	1	
R7307	ERJ3GEYG272	M. RESISTOR CH 1/16W 2.7K	1	
R7311	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1	
R7313	ERJ3GEYJ273	M. RESISTOR CH 1/16W 27K	1	
R7320	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R7323	ERJ3GEYG472	M. RESISTOR CH 1/16W 4.7K	1	
R7324, 25	ERJ3GEYG471	M. RESISTOR CH 1/16W 470	2	
R7326	ERJ3GEYG113	M. RESISTOR CH 1/16W 11K	1	
R7327	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R7328	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1	
R7329	ERJ3GEYG332	M. RESISTOR CH 1/16W 3.3K	1	
R7330	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1	
R7331	ERJ3GEYG113	M. RESISTOR CH 1/16W 11K	1	
R7336	ERJ6GEYJ471	M. RESISTOR CH 1/10W 470	1	
R7337	ERJ3GEYG471	M. RESISTOR CH 1/16W 470	1	
R7345	ERJ3GEYG182	M. RESISTOR CH 1/16W 1.8K	1	
R7352, 53	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	2	
R7354, 55	ERJ3GEYG102	M. RESISTOR CH 1/16W 1K	2	
R7358, 59	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	2	
R7362, 63	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	2	
R7601	ERJ6GMYG151	M. RESISTOR CH 1/10W 150	1	
R7602, 03	ERJ6GMYJ683	M. RESISTOR CH 1/10W 68K	2	
R7604	ERJ6GMYG151	M. RESISTOR CH 1/10W 150	1	
R7605-07	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	3	
R7609	ERDS2TJ330	C. RESISTOR 1/4W 33	1	
R7612	ERG2SJ331	M. RESISTOR 2W 330	1	
R7614	ERJ6GMYG561	M. RESISTOR CH 1/10W 560	1	
R7615	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R7616	ERG2SJ331	M. RESISTOR 2W 330	1	
R7618	ERJ6GMYG472	M. RESISTOR CH 1/10W 4.7K	1	
R7619	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R7702	ERJ6GMYG182	M. RESISTOR CH 1/10W 1.8K	1	
R7703, 04	ERJ6GMYG101	M. RESISTOR CH 1/10W 100	2	
R7705	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R7707	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R7708	ERJ6GMYG272	M. RESISTOR CH 1/10W 2.7K	1	
R7709	ERJ6GMZOR00	M. RESISTOR CH 1/10W 0	1	
R7711	ERJ6GMYG272	M. RESISTOR CH 1/10W 2.7K	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R7712, 13	ERJ6GMZOR00	M. RESISTOR CH 1/10W 0	2	
R7714-19	ERJ6GMYG101	M. RESISTOR CH 1/10W 100	6	
R7720, 21	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	2	
R7722	ERJ6GMYG472	M. RESISTOR CH 1/10W 4.7K	1	
R7723	ERJ6GMYG152	M. RESISTOR CH 1/10W 1.5K	1	
R7725	ERJ6GMYG332	M. RESISTOR CH 1/10W 3.3K	1	
R7726	ERJ6GMYG273	M. RESISTOR CH 1/10W 27K	1	
R7727	ERJ6GMYG472	M. RESISTOR CH 1/10W 4.7K	1	
R7729	ERJ6GMYG472	M. RESISTOR CH 1/10W 4.7K	1	
R7730	ERJ6GMYG101	M. RESISTOR CH 1/10W 100	1	
R7731	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R7732	ERJ6GMYG472	M. RESISTOR CH 1/10W 4.7K	1	
R7733	ERJ6GMYG104	M. RESISTOR CH 1/10W 100K	1	
R7734	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R7735	ERJ6GMYG104	M. RESISTOR CH 1/10W 100K	1	
R7736	ERJ6GMYG152	M. RESISTOR CH 1/10W 1.5K	1	
R7737, 38	ERJ6GMYJ221	M. RESISTOR CH 1/10W 220	2	
R7739	ERJ6GMYJ112	M. RESISTOR CH 1/10W 1.1K	1	
R7740	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R7741	ERJ6GMYG472	M. RESISTOR CH 1/10W 4.7K	1	
R7742	ERJ6GMYG682	M. RESISTOR CH 1/10W 6.8K	1	
R7743	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R7745	ERJ6GMYG224	M. RESISTOR CH 1/10W 220K	1	
R7747	ERJ6GMYG472	M. RESISTOR CH 1/10W 4.7K	1	
R7748	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R7750	ERJ6GMYG561	M. RESISTOR CH 1/10W 560	1	
R7751	ERJ6GMYG392	M. RESISTOR CH 1/10W 3.9K	1	
R7753	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R7754	ERJ6GMYG122	M. RESISTOR CH 1/10W 1.2K	1	
R7756	ERJ6GMYG473	M. RESISTOR CH 1/10W 47K	1	
R7757	ERJ6GMYG101	M. RESISTOR CH 1/10W 100	1	
R7758	ERJ6GMYG273	M. RESISTOR CH 1/10W 27K	1	
R7761	ERJ6GMYG272	M. RESISTOR CH 1/10W 2.7K	1	
R7764	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
RX7701	EXBF9E103J	RESISTOR-RESISTOR	1	
S6001	VESO709	SWITCH	1	
T0703	EQV5EC071A	TRANSFORMER	1	
T0704	EQV5EC072A	TRANSFORMER	1	
T4001	VLTO696	TRANSFORMER	1	
T4002	EIQ7QF013Q	TRANSFORMER	1	
T7301	EQR7QG028P	TRANSFORMER	1	
T7304	EIS5EC017A	TRANSFORMER	1	
T7305	EQS5EC033A	TRANSFORMER	1	
⚠ TU7601	ENG47232GD	TUNER	1	[SUPPLIED FROM MBV]
VR0701	EVNCBAA00B24	V. RESISTOR 20K	1	
VR2001	EVNCYAA03B54	V. RESISTOR 50K	1	
VR3001, 02	EVNCYAA03B23	V. RESISTOR 2K	2	
VR3012, 13	EVNCYAA03B52	V. RESISTOR 500	2	
VR3014	EVNCYAA03B54	V. RESISTOR 50K	1	
VR4001	EVNCYAA03B15	V. RESISTOR 100K	1	
VR4501	EVMECSA00BS3	V. RESISTOR 6.8K	1	
VR4509	EVMECSA00B53	V. RESISTOR 5K	1	
VR4550	EVMECSA00B14	V. RESISTOR 10K	1	
VR7301	EVNCBAA00B53	V. RESISTOR 5K	1	
X301	VSX0162	CRYSTAL OSCILLATOR	1	
X0701	VLF1178	FILTER	1	
X0703	EFCS5R5MW5	FILTER	1	
X0704	VLF1368	FILTER	1	[SUPPLIED FROM MBV]
X6001	VSX0583	CRYSTAL OSCILLATOR	1	
X7301	EFCS5R5MS5	FILTER	1	
X7304	EFCS5R74MS5B	FILTER	1	
X7305	VSX0648	CRYSTAL OSCILLATOR	1	
X7702	VSX0353	CRYSTAL OSCILLATOR	1	
		MISCELLANEOUS		
	VMP4894	SUPPORT ANGLE	2	
	VMD2329	PHOTO TRANSISTOR HOLDER	2	
	VMD2328	REEL GUIDE	1	
	VMD2330	LED HOLDER	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
	VMP4894	SUPPORT ANGLE	1	FOR DECODER C.B.A.
	VMP4471	TV DEMODULATOR ANGLE	1	FOR TV DEMODU. C.B.A.
■	VEP06B36XR	MAIN C.B.A.		[SUPPLIED FROM MBV]
				(RTL) NV-HD670EG
C301	ECUX1H101JCV	C.CAPACITOR CH 50V 100P	1	
C302	ECUX1H820JCV	C.CAPACITOR CH 50V 82P	1	
C303	ECUX1H331JCV	C.CAPACITOR CH 50V 330P	1	
C305	ECUX1H102GCV	C.CAPACITOR CH 50V 1000P	1	[SUPPLIED FROM MBV]
C306	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C307	ECEA1EKA4R7	E.CAPACITOR 25V 4.7U	1	
C309	ECUX1H330JCV	C.CAPACITOR CH 50V 33P	1	
C310	ECUX1E223KBV	C.CAPACITOR CH 25V 0.022U	1	
C311	ECUM1E104KBN	C.CAPACITOR CH 25V 0.1U	1	
C312	ECUX1H680JCV	C.CAPACITOR CH 50V 68P	1	
C313	ECUX1H681GCV	C.CAPACITOR CH 50V 680P	1	[SUPPLIED FROM MBV]
C314	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C315	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C316	ECEA1HKA010	E.CAPACITOR 50V 1U	1	
C317	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
C318	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C319	ECUX1H222KBV	C.CAPACITOR CH 50V 2200P	1	
C320	ECUX1C333KBV	C.CAPACITOR CH 16V 0.033U	1	
C321	ECEA1HKA010	E.CAPACITOR 50V 1U	1	
C322	ECUX1H270JCV	C.CAPACITOR CH 50V 27P	1	
C323	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C324	ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C325	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C327	ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C328	ECUX1H080DCV	C.CAPACITOR CH 50V 8P	1	
C329	ECUX1H101JCV	C.CAPACITOR CH 50V 100P	1	
C330	ECUX1H330JCV	C.CAPACITOR CH 50V 33P	1	
C331	ECUX1H820JCV	C.CAPACITOR CH 50V 82P	1	
C332	ECUX1H681JCV	C.CAPACITOR CH 50V 680P	1	
C333	ECUX1H060DCV	C.CAPACITOR CH 50V 6P	1	
C334	ECUX1H100DCV	C.CAPACITOR CH 50V 10P	1	
C335	ECUX1H120JCV	C.CAPACITOR CH 50V 12P	1	
C336	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C337	ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C338	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C339	ECUX1H470JCV	C.CAPACITOR CH 50V 47P	1	
C340	ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C341	ECUX1E223KBV	C.CAPACITOR CH 25V 0.022U	1	
C342	ECEA1EKA4R7	E.CAPACITOR 25V 4.7U	1	
C343	ECEA1EKN4R7	E.CAPACITOR 25V 4.7U	1	
C344	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C345,46	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C347	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C348	ECEA1CKA101	E.CAPACITOR 16V 100U	1	
C349	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C350	ECUX1H152KBV	C.CAPACITOR CH 50V 1500P	1	
C351	ECUX1H392KBV	C.CAPACITOR CH 50V 3900P	1	
C352	ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C353	ECUX1H221JCV	C.CAPACITOR CH 50V 220P	1	
C354	ECUX1H470JCV	C.CAPACITOR CH 50V 47P	1	
C355	ECEA0JKA221	E.CAPACITOR 6.3V 220U	1	
C356	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C357	ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C358	ECUX1H472KBV	C.CAPACITOR CH 50V 4700P	1	
C362	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C363	ECUX1H270JCV	C.CAPACITOR CH 50V 27P	1	
C365,66	ECUX1H101JCV	C.CAPACITOR CH 50V 100P	2	
C370	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C371	ECEA1HKA0R1	E.CAPACITOR 50V 0.1U	1	
C372,73	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	2	
C374	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C376	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C378	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C379,80	ECUX1H330JCV	C.CAPACITOR CH 50V 33P	2	
C0701,02	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C0704	ECUX1H331JCV	C.CAPACITOR CH 50V 330P	1	
C0706	ECEA1HKA0R1	E.CAPACITOR 50V 0.1U	1	
C0707,08	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C0709	ECUX1H120JCV	C.CAPACITOR CH 50V 12P	1	
C0710	ECUX1H470JPV	C.CAPACITOR CH 50V 47P	1	
C0711	ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C0712	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C0714	ECQB1H473JF	P.CAPACITOR 50V 0.047U	1	
C0715	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C0716	ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C0717	ECUX1H270JPV	C.CAPACITOR CH 50V 27P	1	
C0718	ECEA1HKSR47	E.CAPACITOR 50V 0.47U	1	
C0719	ECUX1H220JCV	C.CAPACITOR CH 50V 22P	1	
C0720	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C0723	ECEA1HKA0R1	E.CAPACITOR 50V 0.1U	1	
C0726	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C0730	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C0732	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C801	ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C802	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C803	ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C804	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C805	ECUX1H050CCV	C.CAPACITOR CH 50V 5P	1	
C806	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C807	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C851	ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C852,53	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C854	ECEA1HKA0R1	E.CAPACITOR 50V 0.1U	1	
C855,56	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C857	ECEA1HKA0R1	E.CAPACITOR 50V 0.1U	1	
C858	ECUM1H472KBN	C.CAPACITOR CH 50V 4700P	1	
C859	ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C860,61	ECEA1HKA010	E.CAPACITOR 50V 1U	2	
C862	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C863	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
C864	ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C865	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C867	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C1001	ECA1CM101	E.CAPACITOR 16V 100U	1	
C1002	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C1003	ECA1CM470	E.CAPACITOR 16V 47U	1	
C1004	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C1005	ECEA0JKA220	E.CAPACITOR 6.3V 22U	1	
C1006	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C1007	ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C1008	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C1009	ECEA0JKA220	E.CAPACITOR 6.3V 22U	1	
C1010	ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C1011	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C1012	ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C1013	ECEA0JKA220	E.CAPACITOR 6.3V 22U	1	
C2001	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C2002,03	ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	2	
C2004	ECUM1H223KBN	C.CAPACITOR CH 50V 0.022U	1	
C2005	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C2006	ECUM1H392KBN	C.CAPACITOR CH 50V 3900P	1	
C2007	ECUM1H472KBN	C.CAPACITOR CH 50V 4700P	1	
C2008	ECQV1H683JM	P.CAPACITOR 50V 0.068U	1	
C2009	ECEA0JKA221	E.CAPACITOR 6.3V 220U	1	
C2010	ECUM1H471JCN	C.CAPACITOR CH 50V 470P	1	
C2011	ECEA0JKA221	E.CAPACITOR 6.3V 220U	1	
C2012	ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C2013	ECUM1H222KBN	C.CAPACITOR CH 50V 2200P	1	
C2014	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C2015	ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C2016,17	ECEA1EKN3R3	E.CAPACITOR 25V 3.3U	2	
C2018	ECEA1EKA4R7	E.CAPACITOR 25V 4.7U	1	
C2019,20	ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	2	
C2021,22	ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	2	
C2023	ECUM1H222KBN	C.CAPACITOR CH 50V 2200P	1	
C2024,25	ECEA1HKA2R2	E.CAPACITOR 50V 2.2U	2	
C2026	ECEA1HKNR22	E.CAPACITOR 50V 0.22U	1	
C2027	ECA1EM470	E.CAPACITOR 25V 47U	1	
C2028	ECEA1HKA010	E.CAPACITOR 50V 1U	1	
C2029	ECA1EM470	E.CAPACITOR 25V 47U	1	
C2030,31	ECUM1E333KBN	C.CAPACITOR CH 25V 0.033U	2	
C2032	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C2033	ECA0JM221	E.CAPACITOR 6.3V 220U	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C2035	ECUM1E333KBN	C. CAPACITOR CH 25V 0.033U	1	
C2036	ECQV1H683JM	P. CAPACITOR 50V 0.068U	1	
C2037	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C2038-40	ECUM1E333KBN	C. CAPACITOR CH 25V 0.033U	3	
C2041, 42	ECUM1H680JCN	C. CAPACITOR CH 50V 68P	2	
C2043, 44	ECUM1C474ZFN	C. CAPACITOR CH 16V 0.47U	2	
C2045	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C2046	ECEA1HKA2R2	E. CAPACITOR 50V 2.2U	1	
C2053	ECEA1HKAR47	E. CAPACITOR 50V 0.47U	1	
C3001	ECUM1H620JCN	C. CAPACITOR CH 50V 62P	1	
C3002	ECUM1H181JCN	C. CAPACITOR CH 50V 180P	1	
C3003	ECUM1H220JCN	C. CAPACITOR CH 50V 22P	1	
C3004	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C3006	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C3007	ECEA0JKA221	E. CAPACITOR 6.3V 220U	1	
C3008	ECUM1H102KBN	C. CAPACITOR CH 50V 1000P	1	
C3009	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C3010	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1	
C3017, 18	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	2	
C3019	ECUM1H620JCN	C. CAPACITOR CH 50V 62P	1	
C3021	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C3023	ECEA1CKA470	E. CAPACITOR 16V 47U	1	
C3024	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C3027	ECEA0JKA470	E. CAPACITOR 6.3V 47U	1	
C3028	ECUM1H151JCN	C. CAPACITOR CH 50V 150P	1	
C3029	ECUM1H220JCN	C. CAPACITOR CH 50V 22P	1	
C3031	ECUM1H220JCN	C. CAPACITOR CH 50V 22P	1	
C3032	ECUM1H681JCN	C. CAPACITOR CH 50V 680P	1	
C3033	ECUM1H330JCN	C. CAPACITOR CH 50V 33P	1	
C3043	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C3046, 47	ECUM1H102KBN	C. CAPACITOR CH 50V 1000P	2	
C3055	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C3057	ECUM1H180JCN	C. CAPACITOR CH 50V 18P	1	
C3062	ECEA0JKA470	E. CAPACITOR 6.3V 47U	1	
C3063	ECEA1CKA100	E. CAPACITOR 16V 10U	1	
C3066	ECKF1H102KB	C. CAPACITOR 50V 1000P	1	
C3067	ECUM1H080DCN	C. CAPACITOR CH 50V 8P	1	
C4002-04	ECEA1CKA100	E. CAPACITOR 16V 10U	3	
C4005	ECCD2H181J	C. CAPACITOR 500V 180P	1	
C4006	ECEA1CKA330	E. CAPACITOR 16V 33U	1	
C4007	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
C4009	ECEA1CKA100	E. CAPACITOR 16V 10U	1	
C4010	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C4011	ECQP1222JZ	P. CAPACITOR 100V 2200P	1	
C4012	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
C4013	ECUM1H472KBN	C. CAPACITOR CH 50V 4700P	1	
C4014	ECQP1203JZ	P. CAPACITOR 100V 0.02U	1	[SUPPLIED FROM MBV]
C4015	ECUM1H391JCN	C. CAPACITOR CH 50V 390P	1	
C4016	ECEA1CKA330	E. CAPACITOR 16V 33U	1	
C4017	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1	
C4018-20	ECEA1HKA0R1	E. CAPACITOR 50V 0.1U	3	
C4021	ECUM1H153KBN	C. CAPACITOR CH 50V 0.015U	1	
C4022	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
C4023	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1	
C4024	ECUM1H272KBN	C. CAPACITOR CH 50V 2700P	1	
C4025, 26	ECEA1CKA220	E. CAPACITOR 16V 22U	2	
C4027	ECEA1HKA3R3	E. CAPACITOR 50V 3.3U	1	
C4028	ECEA1CKA470	E. CAPACITOR 16V 47U	1	
C4029	ECUM1H391JCN	C. CAPACITOR CH 50V 390P	1	
C4030	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1	
C4031	ECEA1AKA101	E. CAPACITOR 10V 100U	1	
C4032	ECUM1H822KBN	C. CAPACITOR CH 50V 8200P	1	
C4033, 34	ECUM1H471JCN	C. CAPACITOR CH 50V 470P	2	
C4038	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C4039	ECUM1H220JCN	C. CAPACITOR CH 50V 22P	1	
C4040	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1	
C4041	ECUM1H151JCN	C. CAPACITOR CH 50V 150P	1	
C4042	ECUM1H222KBN	C. CAPACITOR CH 50V 2200P	1	
C4044	ECEA1HKA4R7	E. CAPACITOR 50V 4.7U	1	
C4501	ECUX1H681JCV	C. CAPACITOR CH 50V 680P	1	
C4502	ECUX1H561JCV	C. CAPACITOR CH 50V 560P	1	
C4503	ECUX1H102KBV	C. CAPACITOR CH 50V 1000P	1	
C4506	ECEA1CU100	E. CAPACITOR 16V 10U	1	
C4507	ECQB1H223JF	P. CAPACITOR 50V 0.022U	1	
C4508	ECEA1EU4R7	E. CAPACITOR 25V 4.7U	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C4509	ECEA1AU470	E. CAPACITOR 10V 47U	1	
C4510	ECQB1H103JF	P. CAPACITOR 50V 0.01U	1	
C4511	ECQB1H332JF	P. CAPACITOR 50V 3300P	1	
C4512	ECUX1H561JCV	C. CAPACITOR CH 50V 560P	1	
C4513	ECUM1H681JCN	C. CAPACITOR CH 50V 680P	1	
C4514	ECUM1H561JCN	C. CAPACITOR CH 50V 560P	1	
C4515	ECEA1EU4R7	E. CAPACITOR 25V 4.7U	1	
C4521	ECUM1H473KBN	C. CAPACITOR CH 50V 0.047U	1	
C4522	ECEA1EU4R7	E. CAPACITOR 25V 4.7U	1	
C4530	ECEA0JU470	E. CAPACITOR 6.3V 47U	1	
C4533	ECEA1AU470	E. CAPACITOR 10V 47U	1	
C4537	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1	
C4538	ECEA1HUR47	E. CAPACITOR 50V 0.47U	1	
C4541	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C4551	ECQB1H223JF	P. CAPACITOR 50V 0.022U	1	
C4556	ECEA1CU100	E. CAPACITOR 16V 10U	1	
C4558	ECEA1EU4R7	E. CAPACITOR 25V 4.7U	1	
C4559	ECEA1AU470	E. CAPACITOR 10V 47U	1	
C4560	ECQB1H103JF	P. CAPACITOR 50V 0.01U	1	
C4561	ECQB1H332JF	P. CAPACITOR 50V 3300P	1	
C4562	ECUX1H561JCV	C. CAPACITOR CH 50V 560P	1	
C4565	ECEA1EU4R7	E. CAPACITOR 25V 4.7U	1	
C4568	ECFF1H104ZF5	C. CAPACITOR 50V 0.1U	1	
C4572	ECEA1EU4R7	E. CAPACITOR 25V 4.7U	1	
C4576	ECUM1H473KBN	C. CAPACITOR CH 50V 0.047U	1	
C4585, 86	ECEA0JU101	E. CAPACITOR 6.3V 100U	2	
C4587	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C4591	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C4592	ECUX1H102KBV	C. CAPACITOR CH 50V 1000P	1	
C4671, 72	ECEA1CU100	E. CAPACITOR 16V 10U	2	
C4674	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C4675	ECFF1H104ZF5	C. CAPACITOR 50V 0.1U	1	
C4676	ECA1VM470	E. CAPACITOR 35V 47U	1	
C4677	ECEA1CU470	E. CAPACITOR 16V 47U	1	
C5005	ECEA1HKA3R3	E. CAPACITOR 50V 3.3U	1	
C5006	ECUM1H150JCN	C. CAPACITOR CH 50V 15P	1	
C5007-09	ECUM1H330JCN	C. CAPACITOR CH 50V 33P	3	
C5012, 13	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	2	
C5014	ECEA0JKA470	E. CAPACITOR 6.3V 47U	1	
C5015, 16	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	2	
C5701	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C5702	ECEA1CKA100	E. CAPACITOR 16V 10U	1	
C5703	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C5704	ECEA0JKA221	E. CAPACITOR 6.3V 220U	1	
C5705, 06	ECUM1H121JCN	C. CAPACITOR CH 50V 120P	2	
C5707	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C5708, 09	ECEA1CKA100	E. CAPACITOR 16V 10U	2	
C5710	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C6001	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C6002	ECUM1C224ZFN	C. CAPACITOR CH 16V 0.22U	1	
C6003	ECEA1HKA2R2	E. CAPACITOR 50V 2.2U	1	
C6004	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C6005	ECEA0JKA470	E. CAPACITOR 6.3V 47U	1	
C6006	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C6007	ECEA0JKA101	E. CAPACITOR 6.3V 100U	1	
C6008	ECUM1H270JCN	C. CAPACITOR CH 50V 27P	1	
C6009	ECUM1H150JCN	C. CAPACITOR CH 50V 15P	1	
C6010	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C6011-14	ECUM1H271JCN	C. CAPACITOR CH 50V 270P	4	
C6015	ECEA1CKA100	E. CAPACITOR 16V 10U	1	
C6016	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C6017	ECUX1H561JCN	C. CAPACITOR CH 50V 560P	1	
C6018	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C6024	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C7301, 02	ECUX1H103ZFV	C. CAPACITOR CH 50V 0.01U	2	
C7303	ECEA1CKA470	E. CAPACITOR 16V 47U	1	
C7304	ECUX1H103ZFV	C. CAPACITOR CH 50V 0.01U	1	
C7305	ECEA1CKA220	E. CAPACITOR 16V 22U	1	
C7306	ECUX1H391JCV	C. CAPACITOR CH 50V 390P	1	
C7309-12	ECUX1H103ZFV	C. CAPACITOR CH 50V 0.01U	4	
C7313	ECEA0JKA220	E. CAPACITOR 6.3V 22U	1	
C7314	ECUX1H103ZFV	C. CAPACITOR CH 50V 0.01U	1	
C7315	ECEA1EKA4R7	E. CAPACITOR 25V 4.7U	1	
C7317, 18	ECUX1H040CCV	C. CAPACITOR CH 50V 4P	2	
C7320	ECEA0JKA101	E. CAPACITOR 6.3V 100U	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C7321	ECUX1H103ZFV	C. CAPACITOR CH 50V 0.01U	1	
C7322	ECEA1EKA4R7	E. CAPACITOR 25V 4.7U	1	
C7323, 24	ECUX1H391JCV	C. CAPACITOR CH 50V 390P	2	
C7325, 26	ECEA1CKA100	E. CAPACITOR 16V 10U	2	
C7327	ECUX1C104ZFV	C. CAPACITOR CH 16V 0.1U	1	
C7328	ECEA1CKA470	E. CAPACITOR 16V 47U	1	
C7329, 30	ECUX1H471JCV	C. CAPACITOR CH 50V 470P	2	
C7331	ECEA1CKA100	E. CAPACITOR 16V 10U	1	
C7332, 33	ECUX1C104ZFV	C. CAPACITOR CH 16V 0.1U	2	
C7334	ECEA0JKA101	E. CAPACITOR 6.3V 100U	1	
C7335	ECUX1C104ZFV	C. CAPACITOR CH 16V 0.1U	1	
C7338	ECUM1H471JCN	C. CAPACITOR CH 50V 470P	1	
C7339	ECUM1H182KBM	C. CAPACITOR CH 50V 1800P	1	
C7340	ECUM1H270JCN	C. CAPACITOR CH 50V 27P	1	
C7341	ECEA1CKA100	E. CAPACITOR 16V 10U	1	
C7342	ECUM1H561JCN	C. CAPACITOR CH 50V 560P	1	
C7343	ECEA1HKA010	E. CAPACITOR 50V 1U	1	
C7344	ECUM1H471JCN	C. CAPACITOR CH 50V 470P	1	
C7345	ECUM1H182KBM	C. CAPACITOR CH 50V 1800P	1	
C7346	ECUM1H270JCN	C. CAPACITOR CH 50V 27P	1	
C7347	ECEA1CKA100	E. CAPACITOR 16V 10U	1	
C7348	ECUM1H561JCN	C. CAPACITOR CH 50V 560P	1	
C7350	ECEA1HKA010	E. CAPACITOR 50V 1U	1	
C7351	ECUM1H471JCN	C. CAPACITOR CH 50V 470P	1	
C7352	ECUM1H182KBM	C. CAPACITOR CH 50V 1800P	1	
C7353	ECUM1H270JCN	C. CAPACITOR CH 50V 27P	1	
C7354	ECEA1CKA100	E. CAPACITOR 16V 10U	1	
C7355	ECUM1H561JCN	C. CAPACITOR CH 50V 560P	1	
C7357	ECUX1C104ZFV	C. CAPACITOR CH 16V 0.1U	1	
C7358	ECEA1HKA3R3	E. CAPACITOR 50V 3.3U	1	
C7359	ECUX1C104ZFV	C. CAPACITOR CH 16V 0.1U	1	
C7365, 66	ECEA1HKA010	E. CAPACITOR 50V 1U	2	
C7369	ECEA0JKA470	E. CAPACITOR 6.3V 47U	1	
C7370	ECUX1C104ZFV	C. CAPACITOR CH 16V 0.1U	1	
C7371, 72	ECUX1H103ZFV	C. CAPACITOR CH 50V 0.01U	2	
C7374, 75	ECUX1H150JCV	C. CAPACITOR CH 50V 15P	2	
C7601, 02	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	2	
C7603	ECEA1CKA101	E. CAPACITOR 16V 100U	1	
C7604	ECEA0JKA101	E. CAPACITOR 6.3V 100U	1	
C7605	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C7606	ECEA1CKA101	E. CAPACITOR 16V 100U	1	
C7607	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C7608	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1	
C7609	ECEA0JKA101	E. CAPACITOR 6.3V 100U	1	
C7610, 11	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	2	
C7612	ECEA0JKA101	E. CAPACITOR 6.3V 100U	1	
C7613	ECUM1H180JCN	C. CAPACITOR CH 50V 18P	1	
C7614	ECEA1HKA100	E. CAPACITOR 50V 10U	1	
C7615	ECEA1HKA010	E. CAPACITOR 50V 1U	1	
C7616	ECUM1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
C7617	ECEA1AKS221	E. CAPACITOR 10V 220U	1	
C7701	ECUM1H150JCN	C. CAPACITOR CH 50V 15P	1	
C7702	ECUM1H080DCN	C. CAPACITOR CH 50V 8P	1	
C7703	ECUM1C224ZFN	C. CAPACITOR CH 16V 0.22U	1	
C7704, 05	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2	
C7706	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C7707-10	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	4	
C7712	ECEA0JKA470	E. CAPACITOR 6.3V 47U	1	
C7713	ECEA1CKA100	E. CAPACITOR 16V 10U	1	
C7714	ECEA0JKA470	E. CAPACITOR 6.3V 47U	1	
C7715	ECEA1CKN100	E. CAPACITOR 16V 10U	1	
C7716	ECUM1H120JCN	C. CAPACITOR CH 50V 12P	1	
C7718	ECUX1H561JCN	C. CAPACITOR CH 50V 560P	1	
C7719	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C7720	ECEA0JKA470	E. CAPACITOR 6.3V 47U	1	
C7721	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
C7722	ECUM1H270JCN	C. CAPACITOR CH 50V 27P	1	
C7723	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C7724	ECEA0JKA470	E. CAPACITOR 6.3V 47U	1	
C7727	ECEA0JKA470	E. CAPACITOR 6.3V 47U	1	
C7729	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C7731	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C7732	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1	
C7734	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C7736	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C7737	ECEA0JKA470	E. CAPACITOR 6.3V 47U	1	
C7738, 39	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2	
C7742	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C7743	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1	
C7744	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C7745	ECUM1C224ZFN	C. CAPACITOR CH 16V 0.22U	1	
C7746, 47	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2	
C7748	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1	
C7749	ECUM1H473ZFN	C. CAPACITOR CH 50V 0.047U	1	
C7750	ECUM1C224ZFN	C. CAPACITOR CH 16V 0.22U	1	
D301	MA723-VT	DIODE	1	
D302, 03	1SS355	DIODE	2	
D305	1SS355	DIODE	1	
D310, 11	1SS355	DIODE	2	
D313, 14	1SS355	DIODE	2	
D315, 16	1SS254	DIODE	2	
D317, 18	1SS355	DIODE	2	
D319	MA151K	DIODE	1	
D320	MA151WK	DIODE	1	
D321	1SS355	DIODE	1	
D801-04	1SS355	DIODE	4	
D1001	MA4051-L	DIODE	1	
D1003	MA4120-M	DIODE	1	
D1004	MA4051-L	DIODE	1	
D1005	1SS355	DIODE	1	
D1007, 08	1SS355	DIODE	2	
D1009	1SS254	DIODE	1	
D2001	MA153	DIODE	1	
D2002	MA151K	DIODE	1	
D2003-05	1SS355	DIODE	3	
D2006, 07	MA700	DIODE	2	
D2008, 09	MA185	DIODE	2	
D3001-03	1SS254	DIODE	3	
D3005	MA723-VT	DIODE	1	
D3015	1SS355	DIODE	1	
D3016	MA700A	DIODE	1	
D3050-53	1SS355	DIODE	4	
D3054	1SS254	DIODE	1	
D4001	1SS254	DIODE	1	
D4003-05	1SS254	DIODE	3	
D4504	1SS254	DIODE	1	
D6001	LN59LT. VT	LED	1	
D6002	MA4075-L	DIODE	1	
D6003	MA151K	DIODE	1	
D6004, 05	1SS254	DIODE	2	
D6006	MA151K	DIODE	1	
D6007, 08	1SS254	DIODE	2	
D7301	MA3082-L	DIODE	1	
D7302	MA151K	DIODE	1	
D7303	MA151WK	DIODE	1	
D7304	MA717	DIODE	1	
D7306	MA151WK	DIODE	1	
D7308	MA723-VT	DIODE	1	
D7601	MA4300-M	DIODE	1	
D7702, 03	1SS355	DIODE	2	
D7704	MA700A	DIODE	1	
DL7701	ELB4Y026	FILTER	1	
FL7301, 02	VLF0633	FILTER	2	
IC301	TDA9725V2	IC	1	[SUPPLIED FROM MBV]
IC302	TL8850AF	IC	1	
IC0701	LA7576	IC	1	
IC851	TA1225N	IC	1	
IC1001	HA17431PA	IC	1	
IC2001	BA6887-V3	IC	1	
IC2002	BA6871BS	IC	1	
IC4001	BA7795FS	IC	1	
IC4501	BH7778AK	IC	1	
IC4502	BU4052BCF	IC	1	
IC4503	BA7735FS	IC	1	
IC5701	MM1188XS	IC	1	[SUPPLIED FROM MBV]
IC6001	MN6755486H4W	IC	1	[SUPPLIED FROM MBV]

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
IC6002, 03	ON1387	PHOTO INTERRUPTER	2	
IC7301	MSP3410B-F7	IC	1	[SUPPLIED FROM MBV]
IC7302	PST7043	IC	1	
IC7303	M5238FP	IC	1	
IC7304	HA17431PA	IC	1	
IC7305	MN155402VZDB	IC	1	
IC7306	PST7043	IC	1	
IC7701	M27C512MBXA	OSD EPROM	1	[SUPPLIED FROM MBV]
IC7702	74HCT573D	IC	1	
IC7703	NJM2535M	IC	1	[SUPPLIED FROM MBV]
IC7704	ST24W16FB6	IC	1	[SUPPLIED FROM MBV]
IC7705	TDA8501	IC	1	
IC7706	P83C528MAAG	IC	1	[SUPPLIED FROM MBV]
IC7707	MC74HC164FL2	IC	1	
IC7708	SAA5281ZPM3	IC	1	
IC7709	MC74HC161AF2	IC	1	
IC7710	UPC393G2	IC	1	
IC7711	PST7043	IC	1	
K309	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
K0702	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
K0704, 05	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	2	
K1001	ERJ6GMZ0R00	M. RESISTOR CH 1/10W 0	1	
K3005	ERJ6GMZ0R00	M. RESISTOR CH 1/10W 0	1	
K3040	ERJ6GMZ0R00	M. RESISTOR CH 1/10W 0	1	
K4001	ERJ6GMZ0R00	M. RESISTOR CH 1/10W 0	1	
K4003	ERJ6GMZ0R00	M. RESISTOR CH 1/10W 0	1	
K4009	ERJ6GMZ0R00	M. RESISTOR CH 1/10W 0	1	
K4503, 04	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	2	
K4651	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
K6001, 02	ERJ6GMZ0R00	M. RESISTOR CH 1/10W 0	2	
K7304-07	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	4	
K7314	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
K7317	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
K7604	ERJ6GMZ0R00	M. RESISTOR CH 1/10W 0	1	
K7619	ERJ6GMZ0R00	M. RESISTOR CH 1/10W 0	1	
K7704	ERJ6GMZ0R00	M. RESISTOR CH 1/10W 0	1	
K7706	ERJ6GMZ0R00	M. RESISTOR CH 1/10W 0	1	
K7709	ERJ6GMZ0R00	M. RESISTOR CH 1/10W 0	1	
L301	VLQ0599J151	COIL 150UH	1	
L302, 03	VLQ0599J100	COIL 10UH	2	
L304	VLQ0599J390	COIL 39UH	1	
L305	VLQ0599J470	COIL 47UH	1	
L306	VLQ0599J101	COIL 100UH	1	
L307	VLQ0599J270	COIL 27UH	1	
L308	VLQ0599J100	COIL 10UH	1	
L309	VLQ0599J470	COIL 47UH	1	
L311, 12	VLQ0599J680	COIL 68UH	2	
L313, 14	VLQ0599J390	COIL 39UH	2	
L315	VLQ0599J101	COIL 100UH	1	
L0701	VLQ0163JR27	COIL 0.27UH	1	[SUPPLIED FROM MBV]
L0705	VLQ0163J5R6	COIL 5.6UH	1	
L0706	VLQEL05S150K	COIL 15UH	1	
L801	VLQ0599J101	COIL 100UH	1	
L851, 52	VLQ0599J680	COIL 68UH	2	
L853-57	ERJ6GMZ0R00	M. RESISTOR CH 1/10W 0	5	
L2001	VLP0083	COIL	1	
L3001	VLQ0599J820	COIL 82UH	1	
L3002	VLQ0599J151	COIL 150UH	1	
L3003	VLQ0599J6R8	COIL 6.8UH	1	
L3004	VLQ0599J120	COIL 12UH	1	
L3006	VLQ0599J101	COIL 100UH	1	
L3008	VLQ0599J270	COIL 27UH	1	
L3009	VLQ0599J680	COIL 68UH	1	
L3012	VLQ0599J680	COIL 68UH	1	
L3013	VLP0099	COIL	1	
L4001	ELESE101KA	COIL 100UH	1	
L4002	ELESN471KA	INDUCTOR 470UH	1	
L4003	VLQ0599J680	COIL 68UH	1	
L4005, 06	VLP0150	COIL	2	
L4007	VLQ0123	COIL	1	
L5001	VLQ0599J680	COIL 68UH	1	
L5002, 03	VLQ0599J270	COIL 27UH	2	
L5004	VLQ0599J150	COIL 15UH	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
L5701	VLQ0599J680	COIL 68UH	1	
L5702	VLQ0599J101	COIL 100UH	1	
L6001	ELESE101KA	COIL 100UH	1	
L6002	VLP0083	COIL	1	
L6003, 04	VLQ0599J680	COIL 68UH	2	
L7301	ELEXH100JBV	INDUCTOR 10UH	1	
L7302	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
L7601, 02	VLQ0599J1R0	COIL 1UH	2	
L7603-05	VLQ0599J680	COIL 68UH	3	
L7606	VLQ0599J2R2	COIL 2.2UH	1	
L7607, 08	VLQ0599J680	COIL 68UH	2	
L7701	VLQ0599J100	COIL 10UH	1	
L7702	VLQ0599J3R3	COIL 3.3UH	1	
L7703	VLQ0599J270	COIL 27UH	1	
L7704	VLQ0599J100	COIL 10UH	1	
L7705	VLQ0599J101	COIL 100UH	1	
L7707	VLQ0599J120	COIL 12UH	1	
LB303-06	VLP0145	COIL	4	
LB307-11	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	5	
LB5701	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
P851	VJR0777B011W	CONNECTOR (MALE) 11P	1	
P2001	VJS3640A002	CONNECTOR (FEMALE) 2P	1	
P2002	VJS3537A015G	CONNECTOR (FEMALE) 15P	1	
P2003	VJP3502	CONNECTOR (MALE)	1	
P2004	VJP1232T	CONNECTOR (MALE) 5P	1	
P3002	VJS3537A020G	CONNECTOR (FEMALE) 20P	1	
P4002	VJS3675E006G	CONNECTOR (FEMALE) 6P	1	
P4003	VJP1230T	CONNECTOR (MALE) 3P	1	
P5001	VJR0777B005W	CONNECTOR (MALE) 5P	1	
P5701	VJR0777B006W	CONNECTOR (MALE) 6P	1	
P6001	VJS3821	CONNECTOR (FEMALE) 4P	1	
PK301	VJR0776B010W	CONNECTOR (MALE) 10P	1	[SUPPLIED FROM MBV]
PK302	VJR0776B011W	CONNECTOR (MALE) 11P	1	[SUPPLIED FROM MBV]
PK303	VJR0776B012W	CONNECTOR (MALE) 12P	1	[SUPPLIED FROM MBV]
PK304	VJR0776B003W	CONNECTOR (MALE) 3P	1	
PK0701	VJR0816E010W	CONNECTOR (MALE) 10P	1	
PK4501	VJR0777B008W	CONNECTOR (MALE) 8P	1	
PK4502	VJR0777B013W	CONNECTOR (MALE) 13P	1	
PK4503	VJR0777B010W	CONNECTOR (MALE) 10P	1	
PK7301	VJR0777B009W	CONNECTOR (MALE) 9P	1	
PK7302	VJR0777B008W	CONNECTOR (MALE) 8P	1	
PP0701	VJP3589A004B	CONNECTOR (MALE) 4P	1	
PP3002	VJP3042G013W	CONNECTOR (MALE) 13P	1	
PP3003, 04	VJP3042G007W	CONNECTOR (MALE) 7P	2	
PP3005	VJP3042G010W	CONNECTOR (MALE) 10P	1	
PS3001	VJS3673F014G	CONNECTOR (FEMALE) 14P	1	[SUPPLIED FROM MBV]
PS3006	VJS3631A011A	CONNECTOR (FEMALE) 11P	1	
PS6002	VJS3673B025G	CONNECTOR (FEMALE) 25P	1	
Q301, 02	MSD601	TRANSISTOR	2	
Q304	MSC2295	TRANSISTOR	1	
Q305	MSD601	TRANSISTOR	1	
Q306	MSB709	TRANSISTOR	1	
Q307	MSB709-R	TRANSISTOR	1	
Q308	MSB709	TRANSISTOR	1	
Q309	MSC2295	TRANSISTOR	1	
Q310	MSD601	TRANSISTOR	1	
Q0701	MSD601-S	TRANSISTOR	1	
Q0702	MSB709-R	TRANSISTOR	1	
Q801	MSB709	TRANSISTOR	1	
Q803	MSC2295	TRANSISTOR	1	
Q804	MSB709	TRANSISTOR	1	
Q805	MSD601	TRANSISTOR	1	
Q1001	2SD601A	TRANSISTOR	1	
Q1002-04	2SD1996-S	TRANSISTOR	3	
Q1005	2SD601A	TRANSISTOR	1	
Q1007	2SD2544OPQA	TRANSISTOR	1	
Q3001	MSC2295	TRANSISTOR	1	
Q3002	MSB709	TRANSISTOR	1	
Q3003, 04	MSD601	TRANSISTOR	2	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
Q3005	MSC2295	TRANSISTOR	1	
Q3006	MSB709	TRANSISTOR	1	
Q3007	MSC2295	TRANSISTOR	1	
Q3010	MSB709-R	TRANSISTOR	1	
Q3011	2SD601A	TRANSISTOR	1	
Q3012	2SB1322	TRANSISTOR	1	
Q3017	MSC2295	TRANSISTOR	1	
Q3020	MSD601	TRANSISTOR	1	
Q3023	MSC2295	TRANSISTOR	1	
Q3024	MSD601	TRANSISTOR	1	
Q4001	2SB709A-R	TRANSISTOR	1	
Q4002	2SD602A-R	TRANSISTOR	1	
Q4003, 04	MSD601	TRANSISTOR	2	
Q4005	2SB1320A-R	TRANSISTOR	1	
Q4006	2SD602A-R	TRANSISTOR	1	
Q4007-09	MSD601-R	TRANSISTOR	3	
Q4501	2SD1468	TRANSISTOR	1	
Q4551	2SA1515	TRANSISTOR	1	
Q5001	MSB709	TRANSISTOR	1	
Q5002	MSD601	TRANSISTOR	1	
Q5003	2SA1022	TRANSISTOR	1	
Q5005	XN1501	TRANSISTOR-RESISTOR	1	
Q5006	MSB709	TRANSISTOR	1	
Q5007	MSC2295	TRANSISTOR	1	
Q5008	MSB709	TRANSISTOR	1	
Q5009-13	MSC2295	TRANSISTOR	5	
Q5701	MSC2295	TRANSISTOR	1	
Q6001	MSB709	TRANSISTOR	1	
Q6002, 03	PN205LT-NCVT	PHOTO TRANSISTOR	2	
Q7301, 02	2SD1996	TRANSISTOR	2	
Q7304	2SC2404	TRANSISTOR	1	
Q7305	MSD601-S	TRANSISTOR	1	
Q7308-10	2SB709A	TRANSISTOR	3	
Q7311-13	MSD1328-S	TRANSISTOR	3	
Q7603	2SB710A	TRANSISTOR	1	
Q7703	MSB709	TRANSISTOR	1	
Q7704, 05	MSD601	TRANSISTOR	2	
Q7706	MSB709	TRANSISTOR	1	
QR302	MUN2113	TRANSISTOR-RESISTOR	1	
QR303	MUN2212	TRANSISTOR-RESISTOR	1	
QR304	MUN2113	TRANSISTOR-RESISTOR	1	
QR305	MUN2213	TRANSISTOR-RESISTOR	1	
QR311	MUN2113	TRANSISTOR-RESISTOR	1	
QR315	MUN2213	TRANSISTOR-RESISTOR	1	
QR317	MUN2213	TRANSISTOR-RESISTOR	1	
QR319	UN2210	TRANSISTOR-RESISTOR	1	
QR1001, 02	MUN2113	TRANSISTOR-RESISTOR	2	
QR1003	MUN2211	TRANSISTOR-RESISTOR	1	
QR3001	MUN2111	TRANSISTOR-RESISTOR	1	
QR3002, 03	DTC363EK	TRANSISTOR-RESISTOR	2	
QR3004	MUN2113	TRANSISTOR-RESISTOR	1	
QR3007	MUN2111	TRANSISTOR-RESISTOR	1	
QR3008-12	MUN2212	TRANSISTOR-RESISTOR	5	
QR3018	MUN2212	TRANSISTOR-RESISTOR	1	
QR3026	MUN2212	TRANSISTOR-RESISTOR	1	
QR4001, 02	MUN2212	TRANSISTOR-RESISTOR	2	
QR4651, 52	UN5213	TRANSISTOR-RESISTOR	2	
QR6001	XN1211	TRANSISTOR-RESISTOR	1	
QR6002	UN2114	TRANSISTOR-RESISTOR	1	
QR6004	XN1213	TRANSISTOR-RESISTOR	1	
QR6005	MUN2112	TRANSISTOR-RESISTOR	1	
QR6006	XN1211	TRANSISTOR-RESISTOR	1	
QR6007	MUN2211	TRANSISTOR-RESISTOR	1	
QR7301	MUN2213	TRANSISTOR-RESISTOR	1	
QR7302	MUN2112	TRANSISTOR-RESISTOR	1	
QR7601, 02	MUN2213	TRANSISTOR-RESISTOR	2	
QR7701	UN2216	TRANSISTOR-RESISTOR	1	
QR7702	UN2215	TRANSISTOR-RESISTOR	1	
QR7703	MUN2113	TRANSISTOR-RESISTOR	1	
R303	ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R304	ERJ3GEYJ225	M.RESISTOR CH 1/16W 2.2M	1	
R305	ERJ3GEYG682	M.RESISTOR CH 1/16W 6.8K	1	
R306	ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R307	ERJ3GEYJ271	M.RESISTOR CH 1/16W 270	1	
R308	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R309	ERJ3GEYJ271	M.RESISTOR CH 1/16W 270	1	
R310, 11	ERJ3GEYG152	M.RESISTOR CH 1/16W 1.5K	2	
R312	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	1	
R313	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R314	ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R315	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R316	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R317	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	1	
R319	ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
R320	ERJ3GEYJ821	M.RESISTOR CH 1/16W 820	1	
R321	ERJ3GEYJ120	M.RESISTOR CH 1/16W 12	1	
R322	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R323	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R324, 25	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R326	ERJ3GEYJ242	M.RESISTOR CH 1/16W 2.4K	1	
R327	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R328	ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R329	ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R330	ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1	
R332	ERJ3GEYJ390	M.RESISTOR CH 1/16W 39	1	
R333	ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1	
R335	ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1	
R337	ERJ3GEYJ561	M.RESISTOR CH 1/16W 560	1	
R338	ERJ3GEYG471	M.RESISTOR CH 1/16W 470	1	
R339	ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R340	ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R341	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R344	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R346, 47	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	2	
R350	ERJ3GEYG152	M.RESISTOR CH 1/16W 1.5K	1	
R352	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R353	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R354	ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	1	
R355	ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
R356, 57	ERJ3GEYJ821	M.RESISTOR CH 1/16W 820	2	
R359	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R360	ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R367	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R369	ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
R373	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R374	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R375	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R0704	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R0705	ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R0706, 07	ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	2	
R0708	ERJ3GEYG152	M.RESISTOR CH 1/16W 1.5K	1	
R0709	ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R0710	ERJ6GEYG154	M.RESISTOR CH 1/10W 150K	1	
R0713	ERJ3GEYG471	M.RESISTOR CH 1/16W 470	1	
R0714	ERJ3GEYJ470	M.RESISTOR CH 1/16W 47	1	
R0715	ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
R0716	VRE0040E151	M.RESISTOR CH 1/10W 150	1	
R0717	ERJ3GEYJ330	M.RESISTOR CH 1/16W 33	1	
R0718	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R0719	ERJ6GEYF822	M.RESISTOR CH 1/10W 8.2K	1	
R0720	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R0722	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R0728	ERJ3GEYG471	M.RESISTOR CH 1/16W 470	1	
R0729	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R0732	ERJ3GEYG471	M.RESISTOR CH 1/16W 470	1	
R0783	ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
R801	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R802	ERJ3GEYG681	M.RESISTOR CH 1/16W 680	1	
R803	ERJ3GEYG182	M.RESISTOR CH 1/16W 1.8K	1	
R810	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R811	ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	1	
R812	ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	
R813	ERJ3GEYG561	M.RESISTOR CH 1/16W 560	1	[SUPPLIED FROM MBV]
R814	ERJ3GEYG103	M.RESISTOR CH 1/16W 10K	1	
R815	ERJ3GEYG681	M.RESISTOR CH 1/16W 680	1	
R816	ERJ3GEYG181	M.RESISTOR CH 1/16W 180	1	
R817	ERJ3GEYG101	M.RESISTOR CH 1/16W 100	1	[SUPPLIED FROM MBV]
R818	ERJ3GEYG242	M.RESISTOR CH 1/16W 2.4K	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R852	ERJ6GMYG821	M. RESISTOR CH 1/10W 820	1	
R853	ERJ6GMYG203	M. RESISTOR CH 1/10W 20K	1	
R1001	ERJ6GMYG333	M. RESISTOR CH 1/10W 33K	1	
R1002	ERDS2TJ102	C. RESISTOR 1/4W 1K	1	
R1003	ERJ6GMYG272	M. RESISTOR CH 1/10W 2.7K	1	
R1004	ERJ6GMYJ363	M. RESISTOR CH 1/10W 36K	1	
R1005	ERJ6GMYG272	M. RESISTOR CH 1/10W 2.7K	1	
R1006	ERDS2TJ122	C. RESISTOR 1/4W 1.2K	1	
R1007	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R1008	ERJ6GMYG333	M. RESISTOR CH 1/10W 33K	1	
R1009, 10	ERJ6GMYG562	M. RESISTOR CH 1/10W 5.6K	2	
R1011	ERDS1TJ272	C. RESISTOR 1/2W 2.7K	1	
R2001	ERJ6GMYG913	M. RESISTOR CH 1/10W 91K	1	
R2002-04	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	3	
R2005	ERX1SJ1R8	M. RESISTOR 1W 1.8	1	
R2006	ERJ6GMYG512	M. RESISTOR CH 1/10W 5.1K	1	
R2007	ERJ6GMYG222	M. RESISTOR CH 1/10W 2.2K	1	
R2009, 10	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	2	
R2011	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R2012	ERJ6GMYJ221	M. RESISTOR CH 1/10W 220	1	
R2013	ERJ6GMYG272	M. RESISTOR CH 1/10W 2.7K	1	
R2014, 15	ERJ6GMYJ223	M. RESISTOR CH 1/10W 22K	2	
R2016	ERJ6GMYG222	M. RESISTOR CH 1/10W 2.2K	1	
R2017, 18	ERJ6GMYJ223	M. RESISTOR CH 1/10W 22K	2	
R2019	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R2020	ERJ6GMYG471	M. RESISTOR CH 1/10W 470	1	
R2021	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R2022	ERJ6GMYG222	M. RESISTOR CH 1/10W 2.2K	1	
R2023	EROS2CKG8200	M. RESISTOR 1/4W 820	1	
R2024	EROS2CKG6800	M. RESISTOR 1/4W 680	1	
R2025	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R2026, 27	ERDS2TJ560	C. RESISTOR 1/4W 56	2	
R2028	ERDS1TJ561	C. RESISTOR 1/2W 560	1	
R2029	ERJ6GMYG222	M. RESISTOR CH 1/10W 2.2K	1	
R2030	ERJ6GMYG432	M. RESISTOR CH 1/10W 4.3K	1	
R2031	ERJ6GMYG473	M. RESISTOR CH 1/10W 47K	1	
R2032	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R2033	ERJ6GMYJ684	M. RESISTOR CH 1/10W 680K	1	
R2034	ERJ6GMYG133	M. RESISTOR CH 1/10W 13K	1	
R2035	ERJ6GMYJ105	M. RESISTOR CH 1/10W 1M	1	
R2036, 37	ERJ6GMYG472	M. RESISTOR CH 1/10W 4.7K	2	
R2038	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R2039, 40	ERJ6GMYJ105	M. RESISTOR CH 1/10W 1M	2	
R2041, 42	ERJ6GMYG392	M. RESISTOR CH 1/10W 3.9K	2	
R2043	ERDS2TJ560	C. RESISTOR 1/4W 56	1	
R2044	ERX12SJR47	M. RESISTOR 1/2W 0.47	1	
R2050	ERJ6GMYG332	M. RESISTOR CH 1/10W 3.3K	1	
R2051	ERJ6GMZOR00	M. RESISTOR CH 1/10W 0	1	
R3001	ERJ6GMYG561	M. RESISTOR CH 1/10W 560	1	
R3002	ERJ6GMYG472	M. RESISTOR CH 1/10W 4.7K	1	
R3003	ERJ6GMYG222	M. RESISTOR CH 1/10W 2.2K	1	
R3004	ERJ6GMYG272	M. RESISTOR CH 1/10W 2.7K	1	
R3005	ERJ6GMYG332	M. RESISTOR CH 1/10W 3.3K	1	
R3006	ERDS2TJ472	C. RESISTOR 1/4W 4.7K	1	
R3007	ERJ6GMYG681	M. RESISTOR CH 1/10W 680	1	
R3008	ERJ6GMYG222	M. RESISTOR CH 1/10W 2.2K	1	
R3009	ERJ6GMYG392	M. RESISTOR CH 1/10W 3.9K	1	
R3012	ERDS2T0	C. RESISTOR 1/4W 0	1	
R3013	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R3014	ERDS2TJ102	C. RESISTOR 1/4W 1K	1	
R3015	ERJ6GMYG222	M. RESISTOR CH 1/10W 2.2K	1	
R3018	ERJ6GMYJ223	M. RESISTOR CH 1/10W 22K	1	
R3019, 20	ERJ6GMYG561	M. RESISTOR CH 1/10W 560	2	
R3021	ERJ6GMYJ391	M. RESISTOR CH 1/10W 390	1	
R3022	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R3023, 24	ERJ6GMYG821	M. RESISTOR CH 1/10W 820	2	
R3025	ERJ6GMYG152	M. RESISTOR CH 1/10W 1.5K	1	
R3026	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R3029	ERJ6GMYG222	M. RESISTOR CH 1/10W 2.2K	1	
R3030	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R3031	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	1	
R3032	ERJ6GMYG334	M. RESISTOR CH 1/10W 330K	1	
R3033	ERJ6GMYJ223	M. RESISTOR CH 1/10W 22K	1	
R3034	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R3037	ERDS2TJ102	C. RESISTOR 1/4W 1K	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R3039	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R3049	ERJ6GMYG821	M. RESISTOR CH 1/10W 820	1	
R3050	ERJ6GMYG123	M. RESISTOR CH 1/10W 12K	1	
R3051	ERJ6GMYG302	M. RESISTOR CH 1/10W 3K	1	
R3052	ERJ6GMYG272	M. RESISTOR CH 1/10W 2.7K	1	
R3053	ERJ6GMYG302	M. RESISTOR CH 1/10W 3K	1	
R3054	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R3064, 65	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	2	
R3076, 77	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	2	
R3078	ERDS2T0	C. RESISTOR 1/4W 0	1	
R3079	ERJ6GMYG472	M. RESISTOR CH 1/10W 4.7K	1	
R3080	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R3090	ERJ6GMYG104	M. RESISTOR CH 1/10W 100K	1	
R4003	ERJ6GMYG100	M. RESISTOR CH 1/10W 10	1	
R4004, 05	ERJ6GMYG472	M. RESISTOR CH 1/10W 4.7K	2	
R4006	ERJ6GMYG333	M. RESISTOR CH 1/10W 33K	1	
R4007	ERJ6GMYG153	M. RESISTOR CH 1/10W 15K	1	
R4008, 09	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	2	
R4010	ERJ6GMYG273	M. RESISTOR CH 1/10W 27K	1	
R4011	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R4012	ERJ6GMYG123	M. RESISTOR CH 1/10W 12K	1	
R4013	ERJ6GMYJ163	M. RESISTOR CH 1/10W 16K	1	
R4014	ERJ6GMYG562	M. RESISTOR CH 1/10W 5.6K	1	
R4015	ERJ6GMYG333	M. RESISTOR CH 1/10W 33K	1	
R4016	ERJ6GMYJ223	M. RESISTOR CH 1/10W 22K	1	
R4017	ERJ6GMYG133	M. RESISTOR CH 1/10W 1.3K	1	
R4019	ERJ6GMYJ105	M. RESISTOR CH 1/10W 1M	1	
R4020	ERJ6GMYG123	M. RESISTOR CH 1/10W 12K	1	
R4021	ERJ6GMYG473	M. RESISTOR CH 1/10W 47K	1	
R4022	ERJ6GMYG331	M. RESISTOR CH 1/10W 330	1	
R4023	ERJ6GMYG394	M. RESISTOR CH 1/10W 390K	1	
R4024	ERDS2TJ221	C. RESISTOR 1/4W 220	1	
R4025	ERJ6GMYG682	M. RESISTOR CH 1/10W 6.8K	1	
R4026	ERJ6GMYG473	M. RESISTOR CH 1/10W 47K	1	
R4027	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R4028	ERJ6GMYG622	M. RESISTOR CH 1/10W 6.2K	1	
R4029	ERJ6GMYG133	M. RESISTOR CH 1/10W 13K	1	
R4030	ERJ6GMYG562	M. RESISTOR CH 1/10W 5.6K	1	
R4031	ERJ6GMYG222	M. RESISTOR CH 1/10W 2.2K	1	
R4032	ERJ6GMYG471	M. RESISTOR CH 1/10W 470	1	
R4033	ERJ6GMYG331	M. RESISTOR CH 1/10W 330	1	
R4034	ERJ6GMYG203	M. RESISTOR CH 1/10W 20K	1	
R4035, 36	ERJ6GMYJ223	M. RESISTOR CH 1/10W 22K	2	
R4037	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R4038	ERJ6GMYG332	M. RESISTOR CH 1/10W 3.3K	1	
R4039	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R4041, 42	ERJ6GMYG393	M. RESISTOR CH 1/10W 39K	2	
R4043	ERG2SJ821	M. RESISTOR 2W 820	1	
R4044	ERDS1TJ222	C. RESISTOR 1/2W 2.2K	1	
R4047	ERJ6GMYG104	M. RESISTOR CH 1/10W 100K	1	
R4048	ERJ6GMYG473	M. RESISTOR CH 1/10W 47K	1	
R4049	ERJ6GMYG682	M. RESISTOR CH 1/10W 6.8K	1	
R4050	ERJ6GMYJ221	M. RESISTOR CH 1/10W 220	1	
R4051	ERJ6GMYG682	M. RESISTOR CH 1/10W 6.8K	1	
R4054	ERJ6GMZOR00	M. RESISTOR CH 1/10W 0	1	
R4055	ERJ6GMYG153	M. RESISTOR CH 1/10W 15K	1	
R4056	ERJ6GMYG393	M. RESISTOR CH 1/10W 39K	1	
R4057	ERJ6GMYG272	M. RESISTOR CH 1/10W 2.7K	1	
R4058	ERJ6GMYG472	M. RESISTOR CH 1/10W 4.7K	1	
R4059	ERJ6GMYG332	M. RESISTOR CH 1/10W 3.3K	1	
R4062, 63	ERJ6GMYG243	M. RESISTOR CH 1/10W 24K	2	
R4064	ERJ6GMYJ221	M. RESISTOR CH 1/10W 220	1	
R4065	ERJ6GMZOR00	M. RESISTOR CH 1/10W 0	1	
R4066	ERJ6GMYG361	M. RESISTOR CH 1/10W 360	1	
R4067, 68	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	2	
R4069, 70	ERJ6GMYJ683	M. RESISTOR CH 1/10W 68K	2	
R4071	ERJ6GMZOR00	M. RESISTOR CH 1/10W 0	1	
R4073	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R4503	ERJ3RBD203	M. RESISTOR CH 1/16W 20K	1	[SUPPLIED FROM MBV]
R4504	ERJ3GEYG224	M. RESISTOR CH 1/16W 220K	1	
R4508	ERJ3GEYG224	M. RESISTOR CH 1/16W 220K	1	
R4512	ERJ3RBD123	M. RESISTOR CH 1/16W 12K	1	
R4513	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R4517, 18	ERJ3GEYJ221	M. RESISTOR CH 1/16W 220	2	
R4519, 20	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	2	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R4522	ERJ3GEYK225	M.RESISTOR CH 1/16W 2.2M	1	
R4528	ERJ3RBD153	M.RESISTOR CH 1/16W 15K	1	
R4529	ERJ3GEYG562	M.RESISTOR CH 1/16W 5.6K	1	
R4530	ERJ3GEYJ334	M.RESISTOR CH 1/16W 330K	1	
R4534	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R4542	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R4562	ERJ3RBD912	M.RESISTOR CH 1/16W 9.1K	1	[SUPPLIED FROM MBV]
R4563	ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R4584	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R4585	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R4586	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R4598	ERJ6RED124	M.RESISTOR CH 1/10W 120K	1	[SUPPLIED FROM MBV]
R4599	ERJ6RED114	M.RESISTOR CH 1/10W 110K	1	[SUPPLIED FROM MBV]
R4601	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R4603-05	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	3	
R4606	ERJ6GEYF473	M.RESISTOR CH 1/10W 47K	1	
R4607	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R4608	ERDS2TJ103	C.RESISTOR 1/4W 10K	1	
R4621	ERJ6GEYG163	M.RESISTOR CH 1/10W 16K	1	
R4623	ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R4624	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R4695,96	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	2	
R4697	ERJ6GEYG562	M.RESISTOR CH 1/10W 5.6K	1	
R5003	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R5004	ERJ6GMYG271	M.RESISTOR CH 1/10W 270	1	
R5005	ERJ6GMYG472	M.RESISTOR CH 1/10W 4.7K	1	
R5006	ERJ6GMYJ124	M.RESISTOR CH 1/10W 120K	1	
R5007	ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R5012	ERJ6GMYG563	M.RESISTOR CH 1/10W 56K	1	
R5013	ERJ6GMYG123	M.RESISTOR CH 1/10W 12K	1	
R5014	ERJ6GMYG223	M.RESISTOR CH 1/10W 22K	1	
R5016,17	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	2	
R5018	ERJ6GMYG123	M.RESISTOR CH 1/10W 12K	1	
R5019	ERJ6GMYG682	M.RESISTOR CH 1/10W 6.8K	1	
R5020	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R5021,22	ERJ6GMYG681	M.RESISTOR CH 1/10W 680	2	
R5023	ERJ6GMYG271	M.RESISTOR CH 1/10W 270	1	
R5025	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R5027	ERJ6GMYG122	M.RESISTOR CH 1/10W 1.2K	1	
R5028,29	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	2	
R5030	ERJ6GMYG471	M.RESISTOR CH 1/10W 470	1	
R5031	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R5701-04	ERJ6GEYG102	M.RESISTOR CH 1/10W 1K	4	
R5705	ERJ6GEYG152	M.RESISTOR CH 1/10W 1.5K	1	
R5706,07	ERJ6GEYG102	M.RESISTOR CH 1/10W 1K	2	
R5708	ERJ6GEYF333	M.RESISTOR CH 1/10W 33K	1	
R6001	ERJ6GMYJ201	M.RESISTOR CH 1/10W 200	1	
R6002	ERJ6GMYG272	M.RESISTOR CH 1/10W 2.7K	1	
R6003-05	ERJ6GMYG333	M.RESISTOR CH 1/10W 33K	3	
R6006,07	ERJ6GMYG223	M.RESISTOR CH 1/10W 22K	2	
R6008	ERJ6GMYG272	M.RESISTOR CH 1/10W 2.7K	1	
R6009	ERJ6GEYG103	M.RESISTOR CH 1/10W 10K	1	
R6010	ERJ6GMYG272	M.RESISTOR CH 1/10W 2.7K	1	
R6011	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R6012,13	ERJ6GMYG101	M.RESISTOR CH 1/10W 100	2	
R6015	ERJ6GMYG104	M.RESISTOR CH 1/10W 100K	1	
R6016	ERJ6GMYJ683	M.RESISTOR CH 1/10W 68K	1	
R6017	ERDS2TJ103	C.RESISTOR 1/4W 10K	1	
R6019	ERDS2TJ473	C.RESISTOR 1/4W 47K	1	
R6020	ERJ6GMYG104	M.RESISTOR CH 1/10W 100K	1	
R6021-23	ERJ6GMYG101	M.RESISTOR CH 1/10W 100	3	
R6024	ERJ6GMYG222	M.RESISTOR CH 1/10W 2.2K	1	
R6025	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R6026	ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
R6027	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R6028	ERJ6GMYG392	M.RESISTOR CH 1/10W 3.9K	1	
R6029,30	ERJ6GMYG272	M.RESISTOR CH 1/10W 2.7K	2	
R6031,32	ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	2	
R6033	ERJ6GMYG272	M.RESISTOR CH 1/10W 2.7K	1	
R6034	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R6035,36	ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	2	
R6037,38	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	2	
R6039	ERDS2TJ271	C.RESISTOR 1/4W 270	1	
R6040,41	ERJ6GMYJ683	M.RESISTOR CH 1/10W 68K	2	
R6043	ERJ6GMYG392	M.RESISTOR CH 1/10W 3.9K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R6044	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R6046-48	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	3	
R6049	ERDS2TJ102	C.RESISTOR 1/4W 1K	1	
R6050	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R6052	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R6054	ERJ6GMYG472	M.RESISTOR CH 1/10W 4.7K	1	
R6055	ERJ6GMYG183	M.RESISTOR CH 1/10W 18K	1	
R6056-58	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	3	
R6059	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R6060	ERJ6GMYG822	M.RESISTOR CH 1/10W 8.2K	1	
R6061	ERJ6GMYG243	M.RESISTOR CH 1/10W 24K	1	
R6062	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R6063	ERJ6GMYG334	M.RESISTOR CH 1/10W 330K	1	
R6064	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R6065	ERJ6GMYG334	M.RESISTOR CH 1/10W 330K	1	
R7301	ERJ6GEYG182	M.RESISTOR CH 1/10W 1.8K	1	
R7302	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	1	
R7303	ERJ3GEYG152	M.RESISTOR CH 1/16W 1.5K	1	
R7308	ERJ3GEYJ121	M.RESISTOR CH 1/16W 120	1	
R7309,10	ERJ6GEYF561	M.RESISTOR CH 1/10W 560	2	
R7311	ERJ6GEYG221	M.RESISTOR CH 1/10W 220	1	
R7312	ERJ6GEYG152	M.RESISTOR CH 1/10W 1.5K	1	
R7313,14	ERJ3GEYG272	M.RESISTOR CH 1/16W 2.7K	2	
R7315	ERJ3GEYJ114	M.RESISTOR CH 1/16W 110K	1	
R7316	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R7317	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R7320	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R7321-23	ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	3	
R7324	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R7325	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R7326	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R7327-29	ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	3	
R7330	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R7332	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R7333	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R7334-36	ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	3	
R7337	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R7339	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R7341-43	ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	3	
R7346	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R7350	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R7351	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R7352-56	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	5	
R7357	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R7362	ERJ3GEYG682	M.RESISTOR CH 1/16W 6.8K	1	
R7366	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R7367	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R7368,69	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	2	
R7370	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R7371	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R7376,77	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	2	
R7378	ERJ3GEYG152	M.RESISTOR CH 1/16W 1.5K	1	
R7379	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R7381	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R7383	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R7601	ERJ6GMYG151	M.RESISTOR CH 1/10W 150	1	
R7602,03	ERJ6GMYJ683	M.RESISTOR CH 1/10W 68K	2	
R7604	ERJ6GMYG151	M.RESISTOR CH 1/10W 150	1	
R7605-07	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	3	
R7609	ERDS2TJ330	C.RESISTOR 1/4W 33	1	
R7612	ERG2SJ331	M.RESISTOR 2W 330	1	
R7614	ERJ6GMYG561	M.RESISTOR CH 1/10W 560	1	
R7615	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R7616	ERG2SJ331	M.RESISTOR 2W 330	1	
R7618	ERJ6GMYG472	M.RESISTOR CH 1/10W 4.7K	1	
R7619	ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R7702	ERJ6GMYG182	M.RESISTOR CH 1/10W 1.8K	1	
R7703,04	ERJ6GMYG101	M.RESISTOR CH 1/10W 100	2	
R7705	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R7707	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R7708	ERJ6GMYG272	M.RESISTOR CH 1/10W 2.7K	1	
R7709	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	1	
R7711	ERJ6GMYG272	M.RESISTOR CH 1/10W 2.7K	1	
R7712,13	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	2	
R7714-19	ERJ6GMYG101	M.RESISTOR CH 1/10W 100	6	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R7720, 21	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	2	
R7722	ERJ6GMYG472	M. RESISTOR CH 1/10W 4.7K	1	
R7723	ERJ6GMYG152	M. RESISTOR CH 1/10W 1.5K	1	
R7725	ERJ6GMYG332	M. RESISTOR CH 1/10W 3.3K	1	
R7726	ERJ6GMYG273	M. RESISTOR CH 1/10W 27K	1	
R7727	ERJ6GMYG472	M. RESISTOR CH 1/10W 4.7K	1	
R7729	ERJ6GMYG472	M. RESISTOR CH 1/10W 4.7K	1	
R7730	ERJ6GMYG101	M. RESISTOR CH 1/10W 100	1	
R7731	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R7732	ERJ6GMYG472	M. RESISTOR CH 1/10W 4.7K	1	
R7733	ERJ6GMYG104	M. RESISTOR CH 1/10W 100K	1	
R7734	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R7735	ERJ6GMYG104	M. RESISTOR CH 1/10W 100K	1	
R7736	ERJ6GMYG152	M. RESISTOR CH 1/10W 1.5K	1	
R7737, 38	ERJ6GMYJ221	M. RESISTOR CH 1/10W 220	2	
R7739	ERJ6GMYJ112	M. RESISTOR CH 1/10W 1.1K	1	
R7740	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R7741	ERJ6GMYG472	M. RESISTOR CH 1/10W 4.7K	1	
R7742	ERJ6GMYG682	M. RESISTOR CH 1/10W 6.8K	1	
R7743	ERJ6GMYG103	M. RESISTOR CH 1/10W 10K	1	
R7745	ERJ6GMYG224	M. RESISTOR CH 1/10W 220K	1	
R7747	ERJ6GMYG472	M. RESISTOR CH 1/10W 4.7K	1	
R7748	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R7750	ERJ6GMYG561	M. RESISTOR CH 1/10W 560	1	
R7751	ERJ6GMYG392	M. RESISTOR CH 1/10W 3.9K	1	
R7753	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
R7754	ERJ6GMYG122	M. RESISTOR CH 1/10W 1.2K	1	
R7756	ERJ6GMYG473	M. RESISTOR CH 1/10W 47K	1	
R7757	ERJ6GMYG101	M. RESISTOR CH 1/10W 100	1	
R7758	ERJ6GMYG273	M. RESISTOR CH 1/10W 27K	1	
R7761	ERJ6GMYG272	M. RESISTOR CH 1/10W 2.7K	1	
R7764	ERJ6GMYG102	M. RESISTOR CH 1/10W 1K	1	
RX7701	EXBF9E103J	RESISTOR-RESISTOR	1	
S6001	VES0709	SWITCH	1	
T0703	EQV5EC071A	TRANSFORMER	1	
T0704	EQV5EC072A	TRANSFORMER	1	
T4001	VLT0696	TRANSFORMER	1	
T4002	EIQ7QF013Q	TRANSFORMER	1	
⚠ TU7601	ENG47232GD	TUNER	1	[SUPPLIED FROM MBV]
VR0701	EVNCBAA00B24	V. RESISTOR 20K	1	
VR2001	EVNCYAA03B54	V. RESISTOR 50K	1	
VR3001, 02	EVNCYAA03B23	V. RESISTOR 2K	2	
VR3012, 13	EVNCYAA03B52	V. RESISTOR 500	2	
VR3014	EVNCYAA03B54	V. RESISTOR 50K	1	
VR4001	EVNCYAA03B15	V. RESISTOR 100K	1	
VR4501	EVMEGSA00BS3	V. RESISTOR 6.8K	1	
VR4509	EVMEGSA00B53	V. RESISTOR 5K	1	
VR4550	EVMEGSA00B14	V. RESISTOR 10K	1	
X301	VSX0162	CRYSTAL OSCILLATOR	1	
X0701	VLF1178	FILTER	1	
X0703	EFCS5R5MW5	FILTER	1	
X0704	VLF1368	FILTER	1	[SUPPLIED FROM MBV]
X6001	VSX0583	CRYSTAL OSCILLATOR	1	
X7302	VSX0877	CRYSTAL OSCILLATOR	1	[SUPPLIED FROM MBV]
X7303	EFOEC4004A4	CERAMIC OSCILLATOR	1	
X7702	VSX0353	CRYSTAL OSCILLATOR	1	
		MISCELLANEOUS		
	VMP4894	SUPPORT ANGLE	2	
	VMD2329	PHOTO TRANSISTOR HOLDER	2	
	VMD2328	REEL GUIDE	1	
	VMD2330	LED HOLDER	1	
	VMT0332	SPACER	2	FOR NICAM DECODER C.B.A.
	VSC3553	SHIELD COVER (TOP)	1	FOR NICAM DECODER C.B.A.
	VSC3555	SHIELD COVER (BOTTOM)	1	FOR NICAM DECODER C.B.A.
	VMT0784	SPACER	1	FOR NICAM DECODER C.B.A.
	VMP4471	TV DEMODULATOR ANGLE	1	FOR TV DEMODU. C.B.A.

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
■	VEP03D34M	INPUT/OUTPUT C.B.A.		[SUPPLIED FROM MBV]
				(RTL)
C3902	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C3903	ECEA1CKA470	E. CAPACITOR 16V 47U	1	
C3905	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C3906	ECEA0JKA331	E. CAPACITOR 6.3V 330U	1	
C3907, 08	ECEA1CKA100	E. CAPACITOR 16V 10U	2	
C3917	ECEA1CKA470	E. CAPACITOR 16V 47U	1	
C3918	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C3919	ECEA1CKA470	E. CAPACITOR 16V 47U	1	
C3920	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C3923	ECEA1CKA470	E. CAPACITOR 16V 47U	1	
C3924, 25	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	2	
C4901-08	ECUM1H471JCN	C. CAPACITOR CH 50V 470P	8	
C4909	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C4910, 11	ECUM1H471JCN	C. CAPACITOR CH 50V 470P	2	
C4913	ECEA1CKA100	E. CAPACITOR 16V 10U	1	
C4914	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C4915	ECEA1CKA470	E. CAPACITOR 16V 47U	1	
D3901, 02	MA4056-M	DIODE	2	
D3903	MA4120-M	DIODE	1	
D3905	MA151WK	DIODE	1	
IC3902	MC14053BF	IC	1	
IC3903	MC14052BF	IC	1	
IC3906	MC14051BF	IC	1	
IC4901	MC14052BF	IC	1	
IC4902, 03	NJM4558M	IC	2	
IC4904	MC14052BF	IC	1	
JK3901	VEJ1739	JACK	1	[SUPPLIED FROM MBV]
JK3902, 03	VJS1470	JACK	2	
JK3904	VJS3613	JACK	1	[SUPPLIED FROM MBV]
K3902, 03	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	2	
K4906	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
L3903, 04	VLQ0599J330	COIL 33UH	2	
L4901, 02	VLQ0599J471	COIL 470UH	2	
L4903	VLQ0599J101	COIL 100UH	1	
L4904	VLQ0599J330	COIL 33UH	1	
P3901	VJS3537B006G	CONNECTOR (FEMALE) 6P	1	
PS3901	VJS3042B010W	CONNECTOR (FEMALE) 10P	1	
PS3902, 03	VJS3042F007W	CONNECTOR (FEMALE) 7P	2	
PS3904	VJS3042F013W	CONNECTOR (FEMALE) 13P	1	
Q3901, 02	MSD601	TRANSISTOR	2	
Q3903, 04	MSB709	TRANSISTOR	2	
Q3909	MSD1328	TRANSISTOR	1	
Q3910	MSB709	TRANSISTOR	1	
QR3901	MUN2212	TRANSISTOR-RESISTOR	1	
QR3902	MUN2113	TRANSISTOR-RESISTOR	1	
QR3903	MUN2212	TRANSISTOR-RESISTOR	1	
QR3904	MUN2111	TRANSISTOR-RESISTOR	1	
R3901, 02	ERJ6GEYG153	M. RESISTOR CH 1/10W 15K	2	
R3903	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R3904	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R3906	ERDS2TJ121	C. RESISTOR 1/4W 120	1	
R3907, 08	ERJ6GEYG332	M. RESISTOR CH 1/10W 3.3K	2	
R3910-12	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	3	
R3919	ERJ6GEYG683	M. RESISTOR CH 1/10W 68K	1	
R3920	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R3921	ERJ6GEYG683	M. RESISTOR CH 1/10W 68K	1	
R3922	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R3923, 24	ERJ6GEYG331	M. RESISTOR CH 1/10W 330	2	
R3925, 26	ERJ6GEYG121	M. RESISTOR CH 1/10W 120	2	
R3928, 29	ERJ6GEYG121	M. RESISTOR CH 1/10W 120	2	
R3930	ERJ6GEYG750	M. RESISTOR CH 1/10W 75	1	
R3932-35	ERJ6GEYG750	M. RESISTOR CH 1/10W 75	4	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R3937	ERJ6GEYF822	M.RESISTOR CH 1/10W 8.2K	1	
R3938	ERJ6GEYF472	M.RESISTOR CH 1/10W 4.7K	1	
R3946	ERJ6GEYG223	M.RESISTOR CH 1/10W 22K	1	
R3947	ERDS2TJ561	C.RESISTOR 1/4W 560	1	
R3948	ERJ6GEYG181	M.RESISTOR CH 1/10W 180	1	
R3950	ERJ6GEYG103	M.RESISTOR CH 1/10W 10K	1	
R3953	ERJ6GEYF561	M.RESISTOR CH 1/10W 560	1	
R3954	ERJ6GEYG104	M.RESISTOR CH 1/10W 100K	1	
R4901	ERJ6GEYF473	M.RESISTOR CH 1/10W 47K	1	
R4902	ERJ6GEYG474	M.RESISTOR CH 1/10W 470K	1	
R4903-05	ERJ6GEYF473	M.RESISTOR CH 1/10W 47K	3	
R4906-13	ERJ6GEYG101	M.RESISTOR CH 1/10W 100	8	
R4914,15	ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	2	
R4916	ERJ6GEYG752	M.RESISTOR CH 1/10W 7.5K	1	
R4917,18	ERJ6GEYG103	M.RESISTOR CH 1/10W 10K	2	
R4919	ERJ6GEYG683	M.RESISTOR CH 1/10W 68K	1	
R4920	ERJ6GEYG223	M.RESISTOR CH 1/10W 22K	1	
R4921	ERJ6GEYG683	M.RESISTOR CH 1/10W 68K	1	
R4922	ERJ6GEYG223	M.RESISTOR CH 1/10W 22K	1	
R4924	ERJ6GEYG752	M.RESISTOR CH 1/10W 7.5K	1	
R4925,26	ERJ6GEYG103	M.RESISTOR CH 1/10W 10K	2	
R4927,28	ERJ6GEYG153	M.RESISTOR CH 1/10W 15K	2	
R4929	ERJ6GEYG474	M.RESISTOR CH 1/10W 470K	1	
R4930,31	ERJ6GEYF473	M.RESISTOR CH 1/10W 47K	2	
R4932,33	ERJ6GEYG153	M.RESISTOR CH 1/10W 15K	2	
R4934,35	ERJ6GEYG221	M.RESISTOR CH 1/10W 220	2	
S3902	ESD172311	SWITCH	1	
		MISCELLANEOUS		
	XTV3+8GFZ	SCREW	4	
■	VEP05329B	HEAD AMP C.B.A.		[SUPPLIED FROM MBV]
				(RTL)
C503	ECUM1C474ZFN	C.CAPACITOR CH 16V 0.47U	1	
C506	ECUM1C474ZFN	C.CAPACITOR CH 16V 0.47U	1	
C507	ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C510	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C511	ECEA0JKA221	E.CAPACITOR 6.3V 220U	1	
C512	ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C513,14	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C515	ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C516	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C517,18	ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	2	
C519	ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
D501,02	1SS254	DIODE	2	
IC501	STV5728	IC	1	[SUPPLIED FROM MBV]
K501-06	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	6	
L502,03	VLQ0599J330	COIL 33UH	2	
P501	VJS3537B020G	CONNECTOR (FEMALE) 20P	1	
P502	VJS2603	CONNECTOR (FEMALE)	1	
Q503,04	MSD601	TRANSISTOR	2	
QR501,02	MUN2213	TRANSISTOR-RESISTOR	2	
R501	ERJ6GEYJ100	M.RESISTOR CH 1/10W 10	1	
R502	ERJ6GEYG621	M.RESISTOR CH 1/10W 620	1	
R503	ERJ6GEYJ100	M.RESISTOR CH 1/10W 10	1	
R504	ERJ6GEYG621	M.RESISTOR CH 1/10W 620	1	
R510	ERJ6GEYG183	M.RESISTOR CH 1/10W 18K	1	
R511	ERJ6GEYG182	M.RESISTOR CH 1/10W 1.8K	1	
R512	ERJ6GEYG621	M.RESISTOR CH 1/10W 620	1	
R513	ERJ6GEYJ224	M.RESISTOR CH 1/10W 220K	1	
R514	ERJ6GEYG223	M.RESISTOR CH 1/10W 22K	1	
R515	ERJ6GEYG103	M.RESISTOR CH 1/10W 10K	1	
R516	ERJ6GEYG223	M.RESISTOR CH 1/10W 22K	1	
R517	ERJ6GEYF333	M.RESISTOR CH 1/10W 33K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R518	ERJ6GEYG272	M.RESISTOR CH 1/10W 2.7K	1	
R519	ERJ6GEYG183	M.RESISTOR CH 1/10W 18K	1	
R520,21	ERJ6GEYG102	M.RESISTOR CH 1/10W 1K	2	
R522	ERJ6GEYG122	M.RESISTOR CH 1/10W 1.2K	1	
R523	ERJ6GEYG103	M.RESISTOR CH 1/10W 10K	1	
		MISCELLANEOUS		
	VSC3478	SHIELD CASE (MAIN)	1	
	VSC3714	SHIELD COVER (TOP)	1	
	VSC3715	SHIELD COVER (BOTTOM)	1	
■	VEP07935H	TIMER G.B.A.		[SUPPLIED FROM MBV]
				(RTL) NV-HD670EG
C7501	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C7502	VCE0073	SUPER CAPACITOR	1	
C7503	ECA0JM221	E.CAPACITOR 6.3V 220U	1	
C7504	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C7505	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C7506	ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C7507	ECUM1H270JCN	C.CAPACITOR CH 50V 27P	1	
C7508	ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C7509	ECEA1HKA100	E.CAPACITOR 50V 10U	1	
C7510-12	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	3	
C7513	ECUM1H221JCN	C.CAPACITOR CH 50V 220P	1	
C7515,16	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	2	
C7517,18	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C7519	ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C7520	ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C7521,22	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	2	
C7523	ECEA0JKA330	E.CAPACITOR 6.3V 33U	1	
C7524	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C7525,26	ECEA1EKA4R7	E.CAPACITOR 25V 4.7U	2	
C7527	ECUX1H223KBN	C.CAPACITOR CH 50V 0.022U	1	
C7528,29	ECUM1H473ZFN	C.CAPACITOR CH 50V 0.047U	2	
D7501	MA723-VT	DIODE	1	
D7502	MA4220-L	DIODE	1	
D7503-05	1SS254	DIODE	3	
D7507	1SS254	DIODE	1	
D7511,12	1SS254	DIODE	2	
D7514	1SS254	DIODE	1	
D7519	1SS254	DIODE	1	
D7527-40	1SS254	DIODE	14	
D7541,42	SLR932AVA	DIODE	2	[SUPPLIED FROM MBV]
D7543	HLMF-D205	DIODE	1	[SUPPLIED FROM MBV]
DP7501	VSL0467	DISPLAY TUBE	1	[SUPPLIED FROM MBV]
IC7501	S80743AL	IC	1	
IC7502	PST7023	IC	1	
IC7503	M37507V6AF	IC	1	[SUPPLIED FROM MBV]
IC7504	BA6810F	IC	1	
IR7501	RPM-6937	IC	1	
P7502	VJS3301	CONNECTOR (FEMALE)	1	
PP7501	VJP3405A011W	CONNECTOR (MALE) 11P	1	
PP7503	VJP3405A009W	CONNECTOR (MALE) 9P	1	
PS7501	VJS3673B025G	CONNECTOR (FEMALE) 25P	1	
PS7502	VJS3673F014G	CONNECTOR (FEMALE) 14P	1	[SUPPLIED FROM MBV]
Q7501	MSB709	TRANSISTOR	1	
QR7501	MUN2112	TRANSISTOR-RESISTOR	1	
QR7502-05	MUN2113	TRANSISTOR-RESISTOR	4	
QR7506-08	MUN2111	TRANSISTOR-RESISTOR	3	
QR7509,10	MUN2112	TRANSISTOR-RESISTOR	2	
QR7511	MUN2111	TRANSISTOR-RESISTOR	1	
R7501	ERJ6GEYG181	M.RESISTOR CH 1/10W 180	1	
R7502	ERDS2T0	C.RESISTOR 1/4W 0	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R7503, 04	ERJ6GEYG132	M. RESISTOR CH 1/10W 1.3K	2	
R7505	ERJ6GEYG331	M. RESISTOR CH 1/10W 330	1	
R7506	ERJ6GEYJ224	M. RESISTOR CH 1/10W 220K	1	
R7507, 08	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	2	
R7509	ERJ6GEYG221	M. RESISTOR CH 1/10W 220	1	
R7511	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	1	
R7512	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	1	
R7513-15	ERJ6GEYG221	M. RESISTOR CH 1/10W 220	3	
R7516	ERJ6GEYG332	M. RESISTOR CH 1/10W 3.3K	1	
R7517	ERJ6GEYG221	M. RESISTOR CH 1/10W 220	1	
R7518	ERJ6GEYG332	M. RESISTOR CH 1/10W 3.3K	1	
R7519	ERJ6GEYG221	M. RESISTOR CH 1/10W 220	1	
R7520	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R7521, 22	ERJ6GEYG223	M. RESISTOR CH 1/10W 22K	2	
R7523-25	ERJ6GEYG221	M. RESISTOR CH 1/10W 220	3	
R7526-28	ERJ6GEYG332	M. RESISTOR CH 1/10W 3.3K	3	
R7529	ERJ6GEYG221	M. RESISTOR CH 1/10W 220	1	
R7530	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R7531	ERDS2TJ470	C. RESISTOR 1/4W 47	1	
R7532, 33	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	2	
R7534	ERJ6GEYG272	M. RESISTOR CH 1/10W 2.7K	1	
R7535	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	1	
R7536	ERJ6GEYG223	M. RESISTOR CH 1/10W 22K	1	
R7539, 40	ERJ6GEYG332	M. RESISTOR CH 1/10W 3.3K	2	
R7542	ERJ6GEYG221	M. RESISTOR CH 1/10W 220	1	
RX7501, 02	EXBF6E104J	RESISTOR-RESISTOR	2	
RX7503	EXBF8E104J	RESISTOR-RESISTOR	1	
S7501, 02	EVQ11G09K	SWITCH	2	[SUPPLIED FROM MBV]
S7504-09	EVQ11G09K	SWITCH	6	[SUPPLIED FROM MBV]
S7510	VSQ0822	JOG/SHUTTLE ENCODER	1	
S7511	EVQ11G09K	SWITCH	1	[SUPPLIED FROM MBV]
VC7501	ECRHA010A54R	V. CAPACITOR 50K	1	
VR7501	EVNCYAA03B53	V. RESISTOR 5K	1	
X7501	VSX0608	CRYSTAL OSCILLATOR	1	
X7502	VSX0094	CRYSTAL OSCILLATOR	1	
		MISCELLANEOUS		
	VMD2035	JOG/SHUTTLE HOLDER	1	
	VMD2247	IR RECEIVER HOLDER	1	
	VMD1047	LED SPACER	3	
	VJF1139	FIP HOLDER	1	
■	VEP07935J	TIMER C.B.A.		[SUPPLIED FROM MBV]
				(RTL) NV-HD670EGH
C7501	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C7502	VCE0073	SUPER CAPACITOR	1	
C7503	ECA0JM221	E. CAPACITOR 6.3V 220U	1	
C7504	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C7505	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C7506	ECUM1H560JCN	C. CAPACITOR CH 50V 56P	1	
C7507	ECUM1H270JCN	C. CAPACITOR CH 50V 27P	1	
C7508	ECUM1H220JCN	C. CAPACITOR CH 50V 22P	1	
C7509	ECEA1HKA100	E. CAPACITOR 50V 10U	1	
C7510-12	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	3	
C7513	ECUM1H221JCN	C. CAPACITOR CH 50V 220P	1	
C7515, 16	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2	
C7517, 18	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	2	
C7519	ECUM1H101JCN	C. CAPACITOR CH 50V 100P	1	
C7520	ECEA0JKA470	E. CAPACITOR 6.3V 47U	1	
C7521, 22	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2	
C7523	ECEA0JKA330	E. CAPACITOR 6.3V 33U	1	
C7524	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C7525, 26	ECEA1EKA4R7	E. CAPACITOR 25V 4.7U	2	
C7527	ECUX1H223KBN	C. CAPACITOR CH 50V 0.022U	1	
C7528, 29	ECUM1H473ZFN	C. CAPACITOR CH 50V 0.047U	2	
D7501	MA723-VT	DIODE	1	
D7502	MA4220-L	DIODE	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
D7503-05	1SS254	DIODE	3	
D7507	1SS254	DIODE	1	
D7511, 12	1SS254	DIODE	2	
D7514	1SS254	DIODE	1	
D7519	1SS254	DIODE	1	
D7527-40	1SS254	DIODE	14	
D7541, 42	SLR932AVA	DIODE	2	[SUPPLIED FROM MBV]
D7543	HLMF-D205	DIODE	1	[SUPPLIED FROM MBV]
D7545	1SS254	DIODE	1	
DP7501	VSL0467	DISPLAY TUBE	1	[SUPPLIED FROM MBV]
IC7501	S80743AL	IC	1	
IC7502	PST7023	IC	1	
IC7503	M37507V6AF	IC	1	[SUPPLIED FROM MBV]
IC7504	BA6810F	IC	1	
IR7501	RPM-6937	IC	1	
P7502	VJS3301	CONNECTOR (FEMALE)	1	
PP7501	VJP3405A011W	CONNECTOR (MALE) 11P	1	
PP7503	VJP3405A009W	CONNECTOR (MALE) 9P	1	
PS7501	VJS3673B025G	CONNECTOR (FEMALE) 25P	1	
PS7502	VJS3673F014G	CONNECTOR (FEMALE) 14P	1	[SUPPLIED FROM MBV]
Q7501	MSB709	TRANSISTOR	1	
QR7501	MUN2112	TRANSISTOR-RESISTOR	1	
QR7502-05	MUN2113	TRANSISTOR-RESISTOR	4	
QR7506-08	MUN2111	TRANSISTOR-RESISTOR	3	
QR7509, 10	MUN2112	TRANSISTOR-RESISTOR	2	
QR7511	MUN2111	TRANSISTOR-RESISTOR	1	
R7501	ERJ6GEYG181	M. RESISTOR CH 1/10W 180	1	
R7502	ERDS2T0	C. RESISTOR 1/4W 0	1	
R7503, 04	ERJ6GEYG132	M. RESISTOR CH 1/10W 1.3K	2	
R7505	ERJ6GEYG331	M. RESISTOR CH 1/10W 330	1	
R7506	ERJ6GEYJ224	M. RESISTOR CH 1/10W 220K	1	
R7507, 08	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	2	
R7509	ERJ6GEYG221	M. RESISTOR CH 1/10W 220	1	
R7511	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	1	
R7512	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	1	
R7513-15	ERJ6GEYG221	M. RESISTOR CH 1/10W 220	3	
R7516	ERJ6GEYG332	M. RESISTOR CH 1/10W 3.3K	1	
R7517	ERJ6GEYG221	M. RESISTOR CH 1/10W 220	1	
R7518	ERJ6GEYG332	M. RESISTOR CH 1/10W 3.3K	1	
R7519	ERJ6GEYG221	M. RESISTOR CH 1/10W 220	1	
R7520	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R7521, 22	ERJ6GEYG223	M. RESISTOR CH 1/10W 22K	2	
R7523-25	ERJ6GEYG221	M. RESISTOR CH 1/10W 220	3	
R7526-28	ERJ6GEYG332	M. RESISTOR CH 1/10W 3.3K	3	
R7529	ERJ6GEYG221	M. RESISTOR CH 1/10W 220	1	
R7530	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R7531	ERDS2TJ470	C. RESISTOR 1/4W 47	1	
R7532, 33	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	2	
R7534	ERJ6GEYG272	M. RESISTOR CH 1/10W 2.7K	1	
R7535	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	1	
R7536	ERJ6GEYG223	M. RESISTOR CH 1/10W 22K	1	
R7539, 40	ERJ6GEYG332	M. RESISTOR CH 1/10W 3.3K	2	
R7542	ERJ6GEYG221	M. RESISTOR CH 1/10W 220	1	
RX7501, 02	EXBF6E104J	RESISTOR-RESISTOR	2	
RX7503	EXBF8E104J	RESISTOR-RESISTOR	1	
S7501, 02	EVQ11G09K	SWITCH	2	[SUPPLIED FROM MBV]
S7504-09	EVQ11G09K	SWITCH	6	[SUPPLIED FROM MBV]
S7510	VSQ0822	JOG/SHUTTLE ENCODER	1	
S7511	EVQ11G09K	SWITCH	1	[SUPPLIED FROM MBV]
VC7501	ECRHA010A54R	V. CAPACITOR 50K	1	
VR7501	EVNCYAA03B53	V. RESISTOR 5K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
X7501	VSX0608	CRYSTAL OSCILLATOR	1	
X7502	VSX0094	CRYSTAL OSCILLATOR	1	
		MISCELLANEOUS		
	VMD2035	JOG/SHUTTLE HOLDER	1	
	VMD2247	IR RECEIVER HOLDER	1	
	VMD1047	LED SPACER	3	
	VJF1139	FIP HOLDER	1	
■	VEP07935K	TIMER C.B.A.		[SUPPLIED FROM MBV]
				(RTL) NV-HD670EC
C7501	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C7502	VCE0073	SUPER CAPACITOR	1	
C7503	ECA0JM221	E.CAPACITOR 6.3V 220U	1	
C7504	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C7505	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C7506	ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C7507	ECUM1H270JCN	C.CAPACITOR CH 50V 27P	1	
C7508	ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C7509	ECEA1HKA100	E.CAPACITOR 50V 10U	1	
C7510-12	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	3	
C7513	ECUM1H221JCN	C.CAPACITOR CH 50V 220P	1	
C7515,16	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	2	
C7517,18	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C7519	ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C7520	ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C7521,22	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	2	
C7523	ECEA0JKA330	E.CAPACITOR 6.3V 33U	1	
C7524	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C7525,26	ECEA1EKA4R7	E.CAPACITOR 25V 4.7U	2	
C7527	ECUX1H223KBN	C.CAPACITOR CH 50V 0.022U	1	
C7528,29	ECUM1H473ZFN	C.CAPACITOR CH 50V 0.047U	2	
D7501	MA723-VT	DIODE	1	
D7502	MA4220-L	DIODE	1	
D7503-07	1SS254	DIODE	5	
D7511,12	1SS254	DIODE	2	
D7514	1SS254	DIODE	1	
D7519	1SS254	DIODE	1	
D7527-40	1SS254	DIODE	14	
D7541,42	SLR932AVA	DIODE	2	[SUPPLIED FROM MBV]
D7543	HLMF-D205	DIODE	1	[SUPPLIED FROM MBV]
DP7501	VSL0467	DISPLAY TUBE	1	[SUPPLIED FROM MBV]
IC7501	S80743AL	IC	1	
IC7502	PST7023	IC	1	
IC7503	M37507V6AF	IC	1	[SUPPLIED FROM MBV]
IC7504	BA6810F	IC	1	
IR7501	RPM-6937	IC	1	
P7502	VJS3301	CONNECTOR (FEMALE)	1	
PP7501	VJP3405A011W	CONNECTOR (MALE) 11P	1	
PP7503	VJP3405A009W	CONNECTOR (MALE) 9P	1	
PS7501	VJS3673B025G	CONNECTOR (FEMALE) 25P	1	
PS7502	VJS3673F014G	CONNECTOR (FEMALE) 14P	1	[SUPPLIED FROM MBV]
Q7501	MSB709	TRANSISTOR	1	
QR7501	MUN2112	TRANSISTOR-RESISTOR	1	
QR7502-05	MUN2113	TRANSISTOR-RESISTOR	4	
QR7506-08	MUN2111	TRANSISTOR-RESISTOR	3	
QR7509,10	MUN2112	TRANSISTOR-RESISTOR	2	
QR7511	MUN2111	TRANSISTOR-RESISTOR	1	
R7501	ERJ6GEYG181	M.RESISTOR CH 1/10W 180	1	
R7502	ERDS2T0	C.RESISTOR 1/4W 0	1	
R7503,04	ERJ6GEYG132	M.RESISTOR CH 1/10W 1.3K	2	
R7505	ERJ6GEYG331	M.RESISTOR CH 1/10W 330	1	
R7506	ERJ6GEYJ224	M.RESISTOR CH 1/10W 220K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R7507,08	ERJ6GEYG103	M.RESISTOR CH 1/10W 10K	2	
R7509	ERJ6GEYG221	M.RESISTOR CH 1/10W 220	1	
R7510	ERJ6GEYG103	M.RESISTOR CH 1/10W 10K	1	
R7511	ERJ6GEYG101	M.RESISTOR CH 1/10W 100	1	
R7512	ERJ6GEYG102	M.RESISTOR CH 1/10W 1K	1	
R7513-15	ERJ6GEYG221	M.RESISTOR CH 1/10W 220	3	
R7516	ERJ6GEYG332	M.RESISTOR CH 1/10W 3.3K	1	
R7517	ERJ6GEYG221	M.RESISTOR CH 1/10W 220	1	
R7518	ERJ6GEYG332	M.RESISTOR CH 1/10W 3.3K	1	
R7519	ERJ6GEYG221	M.RESISTOR CH 1/10W 220	1	
R7520	ERJ6GEYF473	M.RESISTOR CH 1/10W 47K	1	
R7521,22	ERJ6GEYG223	M.RESISTOR CH 1/10W 22K	2	
R7523-25	ERJ6GEYG221	M.RESISTOR CH 1/10W 220	3	
R7526-28	ERJ6GEYG332	M.RESISTOR CH 1/10W 3.3K	3	
R7529	ERJ6GEYG221	M.RESISTOR CH 1/10W 220	1	
R7530	ERJ6GEYG103	M.RESISTOR CH 1/10W 10K	1	
R7531	ERDS2TJ470	C.RESISTOR 1/4W 47	1	
R7532,33	ERJ6GEYF473	M.RESISTOR CH 1/10W 47K	2	
R7534	ERJ6GEYG272	M.RESISTOR CH 1/10W 2.7K	1	
R7535	ERJ6GEYG102	M.RESISTOR CH 1/10W 1K	1	
R7536	ERJ6GEYG223	M.RESISTOR CH 1/10W 22K	1	
R7539,40	ERJ6GEYG332	M.RESISTOR CH 1/10W 3.3K	2	
R7542	ERJ6GEYG221	M.RESISTOR CH 1/10W 220	1	
RX7501,02	EXBF6E104J	RESISTOR-RESISTOR	2	
RX7503	EXBF8E104J	RESISTOR-RESISTOR	1	
S7501,02	EVQ11G09K	SWITCH	2	[SUPPLIED FROM MBV]
S7504-09	EVQ11G09K	SWITCH	6	[SUPPLIED FROM MBV]
S7510	VSQ0822	JOG/SHUTTLE ENCODER	1	
S7511	EVQ11G09K	SWITCH	1	[SUPPLIED FROM MBV]
VC7501	ECRHA010A54R	V.CAPACITOR 50K	1	
VR7501	EVNCYAA03B53	V.RESISTOR 5K	1	
X7501	VSX0608	CRYSTAL OSCILLATOR	1	
X7502	VSX0094	CRYSTAL OSCILLATOR	1	
		MISCELLANEOUS		
	VMD2035	JOG/SHUTTLE HOLDER	1	
	VMD2247	IR RECEIVER HOLDER	1	
	VMD1047	LED SPACER	3	
	VJF1139	FIP HOLDER	1	
■	VEP06B38B	POWER SWITCH C.B.A.		[SUPPLIED FROM MBV]
				(RTL)
C6501,02	ECUM1H821JCN	C.CAPACITOR CH 50V 820P	2	
C6504	ECUM1H472KBN	C.CAPACITOR CH 50V 4700P	1	
C6505	ECEA1HKA010	E.CAPACITOR 50V 1U	1	
C6506	ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C6507	ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C6508	ECEA1CKA220	E.CAPACITOR 16V 22U	1	
C6509	ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C6510	ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C6512-14	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	3	
D6501	1SS254	DIODE	1	
D6502	MA4051-L	DIODE	1	
D6503-07	1SS254	DIODE	5	
D6508	SLR932AVA	DIODE	1	[SUPPLIED FROM MBV]
IC6501	M5220FP	IC	1	
JK6501	VJJ0169	JACK	1	
JK6502	VJJ0416	JACK	1	
JK6505	VJJ0263	JACK	1	
L6501,02	ELESE102KA	COIL 1000UH	2	
P6501	VJS3537B006G	CONNECTOR (FEMALE) 6P	1	
PS6501	VJS3405A011A	CONNECTOR (FEMALE) 11P	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
PS6502	VJS3405A009A	CONNECTOR (FEMALE) 9P	1	
Q6501	MSD1328	TRANSISTOR	1	
Q6502	2SD1994	TRANSISTOR	1	
R6501	ERJ6GEYG750	M. RESISTOR CH 1/10W 75	1	
R6502, 03	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	2	
R6504	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R6505	ERJ6GEYJ471	M. RESISTOR CH 1/10W 470	1	
R6506	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R6507	ERJ6GEYG153	M. RESISTOR CH 1/10W 15K	1	
R6508	ERJ6GEYG332	M. RESISTOR CH 1/10W 3.3K	1	
R6509, 10	ERJ6GEYG223	M. RESISTOR CH 1/10W 22K	2	
R6511	ERJ6GEYG151	M. RESISTOR CH 1/10W 150	1	
R6512	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R6513, 14	ERDS2TJ102	C. RESISTOR 1/4W 1K	2	
R6515-18	ERJ6GEYG104	M. RESISTOR CH 1/10W 100K	4	
R6519	ERDS2TJ150	C. RESISTOR 1/4W 15	1	
R6520	ERJ6GEYJ471	M. RESISTOR CH 1/10W 470	1	
R6523	ERJ6GEYG162	M. RESISTOR CH 1/10W 1.6K	1	
R6524	ERJ6GEYG241	M. RESISTOR CH 1/10W 240	1	
R6525	ERJ6GEYG680	M. RESISTOR CH 1/10W 68	1	
R6526, 27	ERJ6GEYG682	M. RESISTOR CH 1/10W 6.8K	2	
S6501-04	EVQ11G09K	SWITCH	4	[SUPPLIED FROM MBV]
VR6501	EVUF3AE20B24	V. RESISTOR 20K	1	
VR6502	EVJ021E2054J	V. RESISTOR	1	
		MISCELLANEOUS		
	VMD2591	LED HOLDER	1	[SUPPLIED FROM MBV]
⚠ ■	VEP01763A	POWER C. B. A.		[SUPPLIED FROM MBV]
				(RTL) NV-HD670EG/EGH
⚠ C1101	ECKMWS102MEF	C. CAPACITOR 1000P	1	
⚠ C1104	ECKMWS102MEF	C. CAPACITOR 1000P	1	
C1106	ECQE6104KF	P. CAPACITOR 630V 0.1U	1	
⚠ C1107	ECKMWS102MEF	C. CAPACITOR 1000P	1	
⚠ C1110, 11	ECQU2A104MVA	P. CAPACITOR 100V 0.1U	2	[SUPPLIED FROM MBV]
C1112	ECEC2GG330	E. CAPACITOR 400V 33U	1	
C1113	ECKD2H103PU	C. CAPACITOR 500V 0.01U	1	
C1114	ECCD3A470KGE	C. CAPACITOR 1KV 47P	1	
C1115	ECA1VGE470X	E. CAPACITOR 35V 47U	1	
C1116	ECEA1HGE470	E. CAPACITOR 50V 47U	1	
C1117	ECQV1H104JM	P. CAPACITOR 50V 0.1U	1	
C1118	ECKF1H102KB	C. CAPACITOR 50V 1000P	1	
C1120	ECQB1H103JF	P. CAPACITOR 50V 0.01U	1	
C1121	EEUFA1E681	E. CAPASITOR 25V 680U	1	
C1122	ECEA1EGE221	E. CAPACITOR 25V 220U	1	
C1123	ECKD2H101KB	C. CAPACITOR 500V 100P	1	
C1124	EEUFA1A122	E. CAPASITOR 10V 1200U	1	
C1125	ECEA1AGE331	E. CAPACITOR 10V 330U	1	
C1127	ECA1HFQ560	E. CAPACITOR 50V 56U	1	
C1128	ECKF1H103ZF	C. CAPACITOR 50V 0.01U	1	
C1129	ECKD2H101KB	C. CAPACITOR 500V 100P	1	
C1130	ECA1VFQ560	E. CAPACITOR 35V 56U	1	
C1131	ECKF1H103ZF	C. CAPACITOR 50V 0.01U	1	
C1133	ECA0JFQ221	E. CAPACITOR 6.3V 220U	1	
C1134, 35	ECQB1H103JF	P. CAPACITOR 50V 0.01U	2	
C1136	ECKF1H391KB	C. CAPACITOR 50V 390P	1	
C1147	ECKF1H102KB	C. CAPACITOR 50V 1000P	1	
C1148	ECQV1H104JM	P. CAPACITOR 50V 0.1U	1	
C1150	ECQB1H103JF	P. CAPACITOR 50V 0.01U	1	
D1102	S1WBA60S	DIODE	1	
D1103	APO1C	DIODE	1	
D1104	MA185	DIODE	1	
D1108	RD100E	DIODE	1	
D1109, 10	ERA15-08	DIODE	2	
D1121	RN2ZLF-C4	DIODE	1	
D1122	21DQ04	DIODE	1	
D1123	ERA22-02	DIODE	1	
D1124	MA185	DIODE	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
D1125	11EQS04	DIODE	1	
D1126	MA4043-L	DIODE	1	
D1127	1SS254	DIODE	1	
D1129	MA4039-M	DIODE	1	
⚠ F1101	XBA2C16TH15	FUSE	1	
IC1101	TDA4605-3	IC	1	
⚠ IP1101	VSF0015A10	IC PROTECTOR	1	
⚠ L1107, 08	ELF18D221F	COIL 220UH	2	
L1121, 22	VLQ0655K220	COIL 22UH	2	
L1123, 24	ELESE101KA	COIL 100UH	2	
LB1101	VLP0085	COIL	1	
LB1102	VLP0074	COIL	1	
⚠ P1101	VJS3306	AC INLET	1	
P1102	VJP3631A011W	CONNECTOR (MALE) 11P	1	
Q1101	STP3N60FI-M	TRANSISTOR	1	
Q1102	2SD1991A	TRANSISTOR	1	
⚠ Q1111	MOC8104TV	TRANSISTOR	1	[SUPPLIED FROM MBV]
QR1101	UN6114	TRANSISTOR-RESISTOR	1	
QR1103	UN4213	TRANSISTOR-RESISTOR	1	
R1103	ERG1SJ393	M. RESISTOR 1W 39K	1	
R1104	ERDS2TJ391	C. RESISTOR 1/4W 390	1	
R1107	ERDS2FJ184	C. RESISTOR 1/4W 180K	1	[SUPPLIED FROM MBV]
R1108	ERDS2FJ105	C. RESISTOR 1/4W 1M	1	
R1109	ERDS2FJ221	C. RESISTOR 1/4W 220	1	
R1110	ERDS2FJ822	C. RESISTOR 1/4W 8.2K	1	
R1111	ERDS2FJ222	C. RESISTOR 1/4W 2.2K	1	
R1112	ERDS2FJ304	C. RESISTOR 1/4W 300K	1	
R1113	ERDS2FJ474	C. RESISTOR 1/4W 470K	1	
R1114	ERX12SJR75	M. RESISTOR 1/2W 0.75	1	
R1115	ERDS2FJ103	C. RESISTOR 1/4W 10K	1	
R1116	ERDS2FJ100	C. RESISTOR 1/4W 10	1	
R1117	ERDS2FJ472	C. RESISTOR 1/4W 4.7K	1	
R1118	ERG1SJ100	M. RESISTOR 1W 10	1	
R1122	ERG12AGM334	S. RESISTOR 1/2W 330K	1	
R1125	ERDS2TJ271	C. RESISTOR 1/4W 270	1	
R1128	ERDS2FJ332	C. RESISTOR 1/4W 3.3K	1	
R1129	ERDS2FJ123	C. RESISTOR 1/4W 12K	1	
R1133	ERDS2FJ474	C. RESISTOR 1/4W 470K	1	
R1135	ERDS2FJ274	C. RESISTOR 1/4W 270K	1	
⚠ T1101	VLT0874	TRANSFORMER	1	[SUPPLIED FROM MBV]
		MISCELLANEOUS		
⚠	EYF52BC	FUSE HOLDER	2	
	VSC4205	SHIELD COVER	1	
	VMP4717	AC PLATE	1	
	VHD0418	SCREW	1	
⚠	VMZ2212	CAPACITOR COVER	2	
⚠	VMZ2394	P. C. B. HOLDER ANGLE	1	
⚠ ■	VEP01763B	POWER C. B. A.		[SUPPLIED FROM MBV]
				(RTL) NV-HD670EG
⚠ C1101	ECKMWS102MEF	C. CAPACITOR 1000P	1	
⚠ C1104	ECKMWS102MEF	C. CAPACITOR 1000P	1	
C1106	ECQE6104KF	P. CAPACITOR 630V 0.1U	1	
⚠ C1107	ECKMWS102MEF	C. CAPACITOR 1000P	1	
⚠ C1110, 11	ECQU2A104MVA	P. CAPACITOR 100V 0.1U	2	[SUPPLIED FROM MBV]
C1112	ECEC2GG330	E. CAPACITOR 400V 33U	1	
C1113	ECKD2H103PU	C. CAPACITOR 500V 0.01U	1	
C1114	ECCD3A470KGE	C. CAPACITOR 1KV 47P	1	
C1115	ECA1VGE470X	E. CAPACITOR 35V 47U	1	
C1116	ECEA1HGE470	E. CAPACITOR 50V 47U	1	
C1117	ECQV1H104JM	P. CAPACITOR 50V 0.1U	1	
C1118	ECKF1H102KB	C. CAPACITOR 50V 1000P	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C1120	ECQB1H103JF	P. CAPACITOR 50V 0.01U	1	
C1121	EEUFA1E681	E. CAPASITOR 25V 680U	1	
C1122	ECEA1EGE221	E. CAPACITOR 25V 220U	1	
C1123	ECKD2H101KB	C. CAPACITOR 500V 100P	1	
C1124	EEUFA1A122	E. CAPASITOR 10V 1200U	1	
C1125	ECEA1AGE331	E. CAPACITOR 10V 330U	1	
C1127	ECA1HFQ560	E. CAPACITOR 50V 56U	1	
C1128	ECKF1H103ZF	C. CAPACITOR 50V 0.01U	1	
C1129	ECKD2H101KB	C. CAPACITOR 500V 100P	1	
C1130	ECA1VFQ560	E. CAPACITOR 35V 56U	1	
C1131	ECKF1H103ZF	C. CAPACITOR 50V 0.01U	1	
C1133	ECA0JFQ221	E. CAPACITOR 6.3V 220U	1	
C1134, 35	ECQB1H103JF	P. CAPACITOR 50V 0.01U	2	
C1136	ECKF1H391KB	C. CAPACITOR 50V 390P	1	
C1147	ECKF1H102KB	C. CAPACITOR 50V 1000P	1	
C1148	ECQV1H104JM	P. CAPACITOR 50V 0.1U	1	
C1150	ECQB1H103JF	P. CAPACITOR 50V 0.01U	1	
D1102	S1WBA60S	DIODE	1	
D1103	AP01C	DIODE	1	
D1104	MA185	DIODE	1	
D1108	RD100E	DIODE	1	
D1109, 10	ERA15-08	DIODE	2	
D1121	RN2ZLF-C4	DIODE	1	
D1122	21DQ04	DIODE	1	
D1123	ERA22-02	DIODE	1	
D1124	MA185	DIODE	1	
D1125	11EQS04	DIODE	1	
D1126	MA4043-L	DIODE	1	
D1127	1SS254	DIODE	1	
D1129	MA4039-M	DIODE	1	
⚠ F1101	XBA2C16TH15	FUSE	1	
IC1101	TDA4605-3	IC	1	
⚠ IP1101	VSF0015A10	IC PROTECTOR	1	
⚠ L1107, 08	ELF18D221F	COIL 220UH	2	
L1121, 22	VLQ0655K220	COIL 22UH	2	
L1123, 24	ELESE101KA	COIL 100UH	2	
LB1101	VLP0085	COIL	1	
LB1102	VLP0074	COIL	1	
⚠ P1101	VJS3306	AC INLET	1	
P1102	VJP3631A011W	CONNECTOR (MALE) 11P	1	
Q1101	STP3N60FI-M	TRANSISTOR	1	
Q1102	2SD1991A	TRANSISTOR	1	
⚠ Q1111	MOC8104T	TRANSISTOR	1	
QR1101	UN6114	TRANSISTOR-RESISTOR	1	
QR1103	UN4213	TRANSISTOR-RESISTOR	1	
R1103	ERG1SJ393	M. RESISTOR 1W 39K	1	
R1104	ERDS2TJ391	C. RESISTOR 1/4W 390	1	
R1107	ERDS2FJ184	C. RESISTOR 1/4W 180K	1	[SUPPLIED FROM MBV]
R1108	ERDS2FJ105	C. RESISTOR 1/4W 1M	1	
R1109	ERDS2FJ221	C. RESISTOR 1/4W 220	1	
R1110	ERDS2FJ822	C. RESISTOR 1/4W 8.2K	1	
R1111	ERDS2FJ222	C. RESISTOR 1/4W 2.2K	1	
R1112	ERDS2FJ304	C. RESISTOR 1/4W 300K	1	
R1113	ERDS2FJ474	C. RESISTOR 1/4W 470K	1	
R1114	ERX12SJR75	M. RESISTOR 1/2W 0.75	1	
R1115	ERDS2FJ103	C. RESISTOR 1/4W 10K	1	
R1116	ERDS2FJ100	C. RESISTOR 1/4W 10	1	
R1117	ERDS2FJ472	C. RESISTOR 1/4W 4.7K	1	
R1118	ERG1SJ100	M. RESISTOR 1W 10	1	
R1122	ERC12AGM334	S. RESISTOR 1/2W 330K	1	
R1125	ERDS2TJ271	C. RESISTOR 1/4W 270	1	
R1128	ERDS2FJ332	C. RESISTOR 1/4W 3.3K	1	
R1129	ERDS2FJ123	C. RESISTOR 1/4W 12K	1	
R1133	ERDS2FJ474	C. RESISTOR 1/4W 470K	1	
R1135	ERDS2FJ274	C. RESISTOR 1/4W 270K	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
⚠ T1101	VLT0874	TRANSFORMER	1	[SUPPLIED FROM MBV]
		MISCELLANEOUS		
⚠	EYF52BC	FUSE HOLDER	2	
	VSC4205	SHIELD COVER	1	
	VMP4717	AC PLATE	1	
	VHD0418	SCREW	1	
⚠	VMZ2212	CAPACITOR COVER	2	
⚠	VMZ2394	P. C. B. HOLDER ANGLE	1	
■	VEX0231	CYLINDER DRIVE C. B. A.		(RTL)
C2901-03	ECEA1VSN2R2	E. CAPACITOR 35V 2.2U	3	
C2904-06	ECUM1E104KBN	C. CAPACITOR CH 25V 0.1U	3	
C2907	ECUM1E683KBN	C. CAPACITOR CH 25V 0.068U	1	
C2908	ECUM1E473KBN	C. CAPACITOR CH 25V 0.047U	1	
C2910	ECEA1CKS100	E. CAPACITOR 16V 10U	1	
IC2901	AN3814K	IC	1	
P2901	VJP2603W	CONNECTOR (MALE) 12P	1	
P2902	VJP1232T	CONNECTOR (MALE) 5P	1	
R2901	ERX12SJR68	M. RESISTOR CH 1/2W 0.68	1	
TH2901	VRH0017	THERMISTOR	1	
		MISCELLANEOUS		
	VMA9138	MAIN HOLDER	1	
■	----------	MOTOR C. B. A.		
		MISCELLANEOUS		
	VJP3316B002	CONNECTOR (MALE) 2P	1	

INTERNAL REFERENCE CODES	
Note:This chart is only for internal reference. Do not order any parts according to these codes.	
P.C.B.	FILM CODE
MAIN	HOAO03-06B36
LUMINANCE & CHROMINANCE	HOAO00-03D95
HIFI AUDIO	HOAO00-04644
INPUT/OUTPUT	HOAO00-03D34
TIMER SYUGO	HOAO01-0360A
TV DEMODULATOR	HOAO00-07801
DECODER(EG/EGH)	HOAO01-07784
NICAM DECODER(EC)	HOAO00-07787
POWER	HOAO02-01763
SQ PB SYUGO	HOAO00-0367A
HEAD AMP	HOAO00-05329
CYLINDER DRIVE	HOAO01-00X69
LOADING MOTOR	HOAO00-00S75

Panasonic

MATSUSHITA ELECTRIC

Printed in Germany

ORDER NO. VSD9402M632

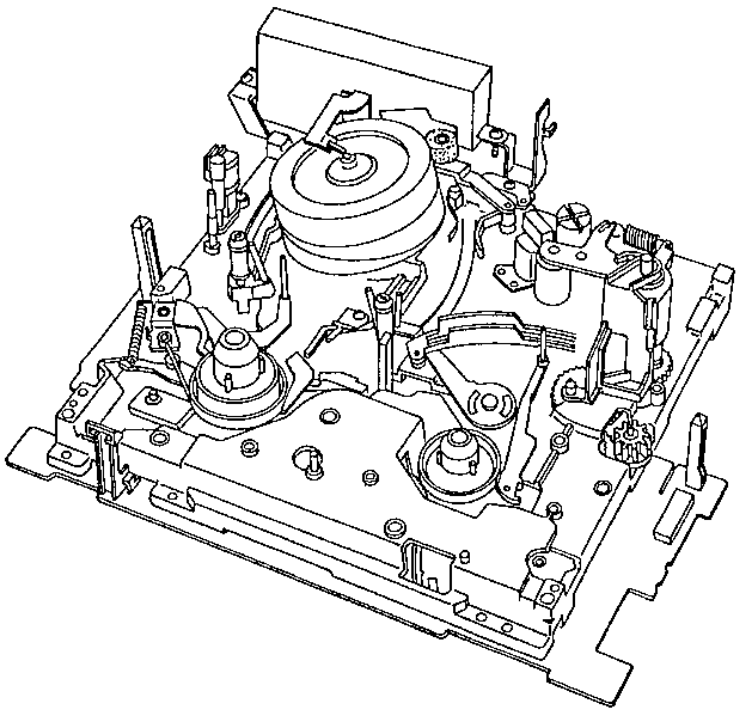
Service Manual

Video Cassette Recorder

VHS
PAL

Sec. 1 *General Information*
Sec. 2 *Maintenance Procedures*
Sec. 3 *Mechanical Adjustment Procedur*
Sec. 4 *Assembly & Phase Adjustment Procedure*

K-MECHANISM



IMPORTANT

The **K-MECHANISM** chassis are built in several Panasonic SVHS／VHS Video Cassette Recorder.

Thus, Properly file this service manual with the service manual of the relative video cassette recorder.

Panasonic

INTRODUCTION

This Service Manual contains the technical information which service personnel to understand and service the K-Mechanism.
The Maintenance Chart, Mechanical Parts List and Mechanical Specification, please refer to the service manual of each model.

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SECTION 1
GENERAL INFORMATION

The K mechanism maintains the same high performance as G2 mechanism but with a smaller quantity of mounted parts, 40% less than G2 mechanism.

1-1. FEATURE of K MECHANISM

1-1-1. Parts Reduction

<K Mechanism>

a. Reduction in the number of drive parts through the use of a single motor to perform front loading and unit loading.
b. Direct drive of brakes and loading gears with the multi-function main lever.
c. Elimination of sub lever and solenoids.

<Front Loading Unit>

a. Elimination of a slide switch, to reduce wiring.
b. Elimination or combining the joint parts.
c. Smaller and thinner the top plate and rack parts.

1-1-2. No Adjustment of the following is required.

a. Take-up inclined position.
b. P5 Post height.

1-1-3. Reduced Gear Phase Position Alignments

The K Mechanism has only 6 gear phase alignment positions and G2 mechanism has 12 gear phase alignment positions.

1-2. OPERATION of K-MECHANISM

The K mechanism has two motors, the loading motor and capstan motor. The loading motor operates the front loading/unloading and tape loading/unloading. The capstan motor operates each mode.
The bottom C.B.A. connects the mechanism to the system control circuit. On the bottom C.B.A. there are take-up and supply photo-sensors, Sensor LED, Mode Switch Connector, Safety Tab Switch, Supply and Take-up Reel Sensors and Loading Motor Connector. All sensor information sent to the system control circuit.

1-3. EMERGENCY CASSETTE REMOVAL

If the electrical circuit is defective and the action of unloading and front unloading do not work properly, it is possible to removing cassette manually.
There are 2 methods of removing the cassette.

A. Battery Operation

1. Remove the bottom plate.
2. Connect the battery (Manganese-Type (AA)(R6) 3pcs./+4.5V) to P1503 as shown in Fig.G1.
3. After moving the loading post to the unloaded position, disconnect the battery to stop the loading motor.
4. Turn the capstan rotor clockwise to take up the tape.
5. Reconnect the battery to eject the cassette.

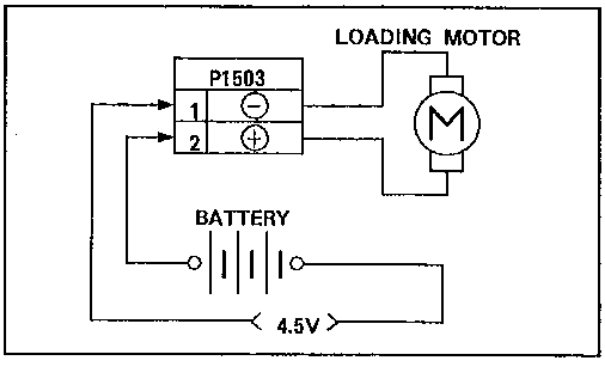


Fig.G1

B. Hand Operation

1. Remove the bottom plate.
2. Turn the worm gear to arrow mark direction (A) by finger as shown in Fig.G2 until loading post move to unloading position.
3. Turn the capstan rotor clockwise (B) to take up the tape.
4. Turn the worm gear again to eject the cassette.

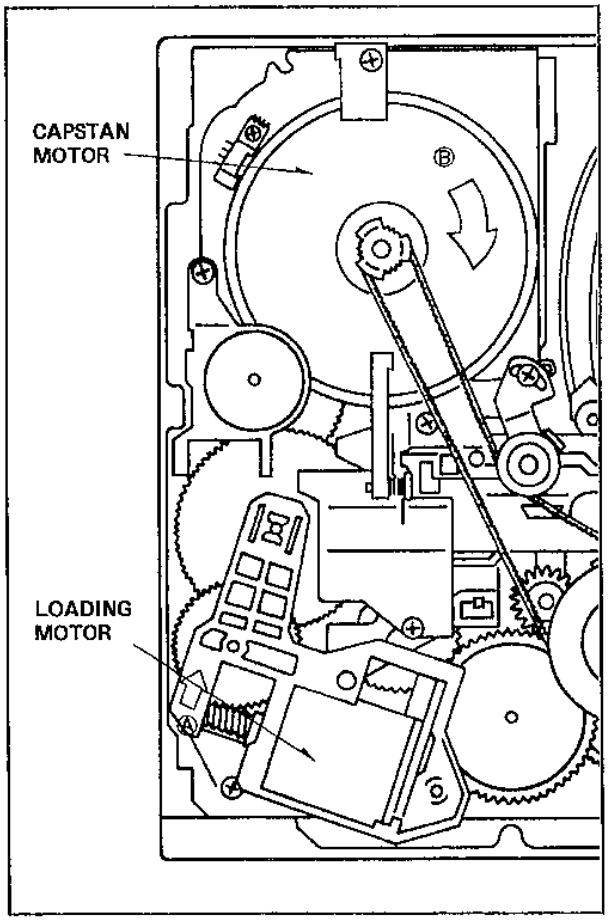


Fig.G2

1-4. EJECT OPERATION

The main cam gear rotates in the direction of the arrow. The projection (B) of the carriage connection gear engages with the recession (A) of the main cam gear. The carriage connection gear rotates in the direction of the arrow to perform the Eject operation.

If the Eject operation is performed without the cassette installed while repairing or making the mechanical phase alignment, the main cam gear will not rotate. For performing the Eject operation with the cassette carriage not installed, it is necessary to rotate the carriage connection gear by hand in the direction of the arrow.

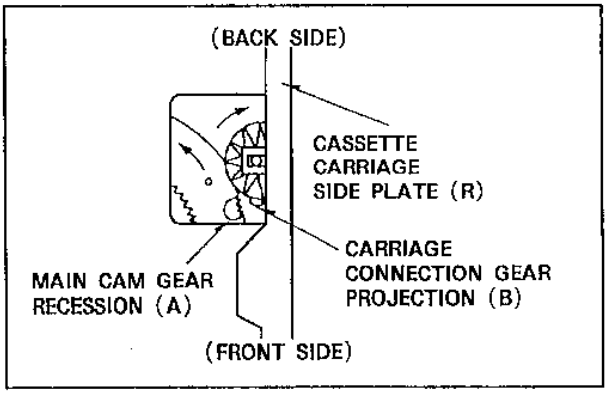


Fig.G3

1-5. REMOVAL of MECHANISM

1-5-1. Removal of Top Plate

1. Unscrew 2 screws (A) and unlock 4 locking tabs to arrow direction as shown in Fig.G4.
2. Lift up the Top Plate.

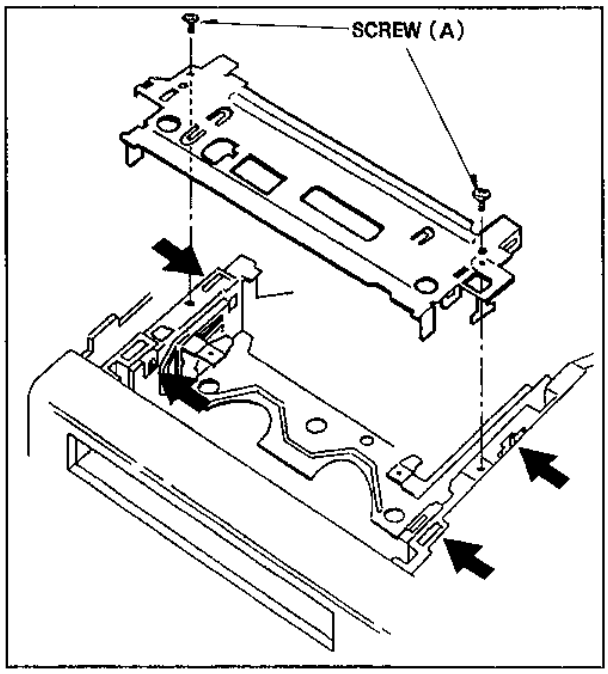


Fig.G4

1-5-2. Removal of Mechanism Chassis

1. Unscrew 2 screws (A) push the Holder Plate slightly to rear of the mechanism.
2. Unscrew a screw (B).
3. Disconnect all cable and connectors on the mechanism chassis.
   1)FE Head connector
   2)A/C Head connector
   3)Power Transistor connector
   4)Head Amp connector
   5)Capstan cable
4. Disconnect a Dew Sensor connector on the MAIN C.B.A.
5. Lift the mechanism chassis slightly and disconnect a connector of Cylinder Motor and a cable of Mechanism Connection C.B.A.
   Then mechanism chassis out of the unit.

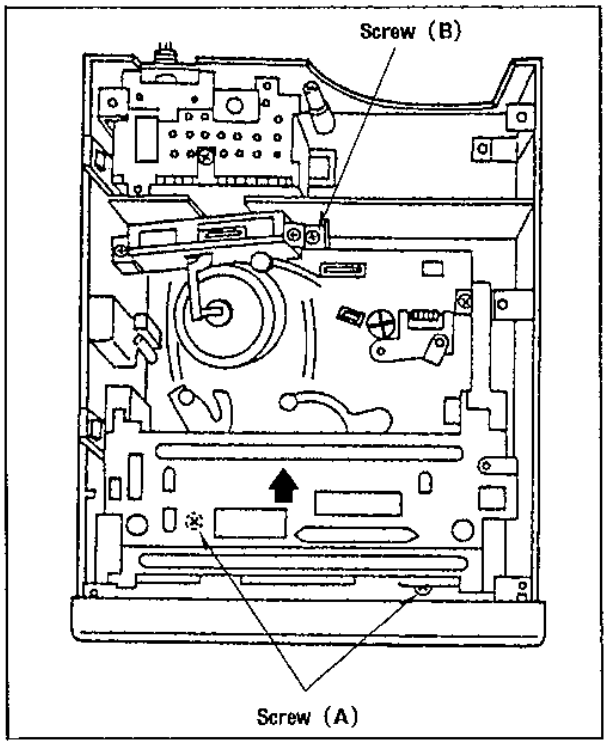


Fig.G5

1-5-3. Removal of Mechanism Connection C.B.A.

1. Unscrew 4 screws (C).
2. Lift up the Mechanism Connection C.B.A.

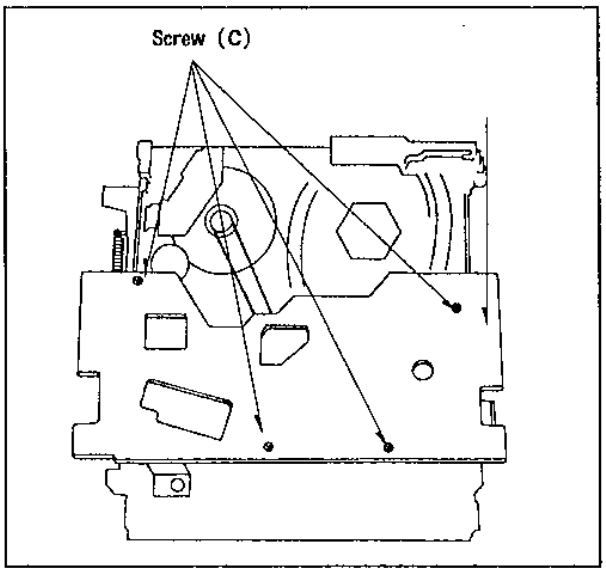
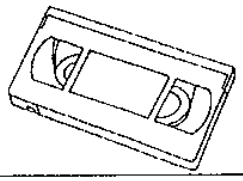
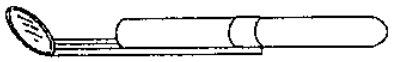
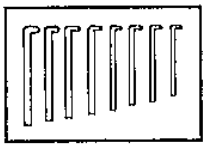
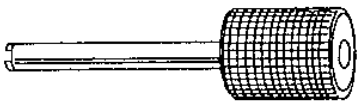
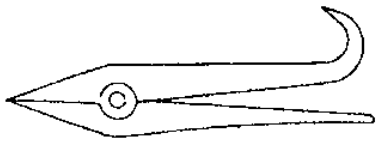
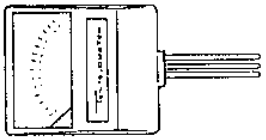
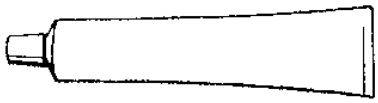
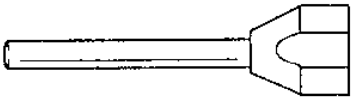
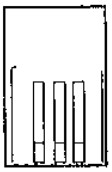
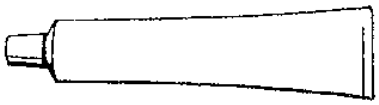
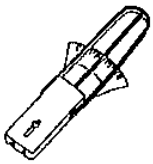


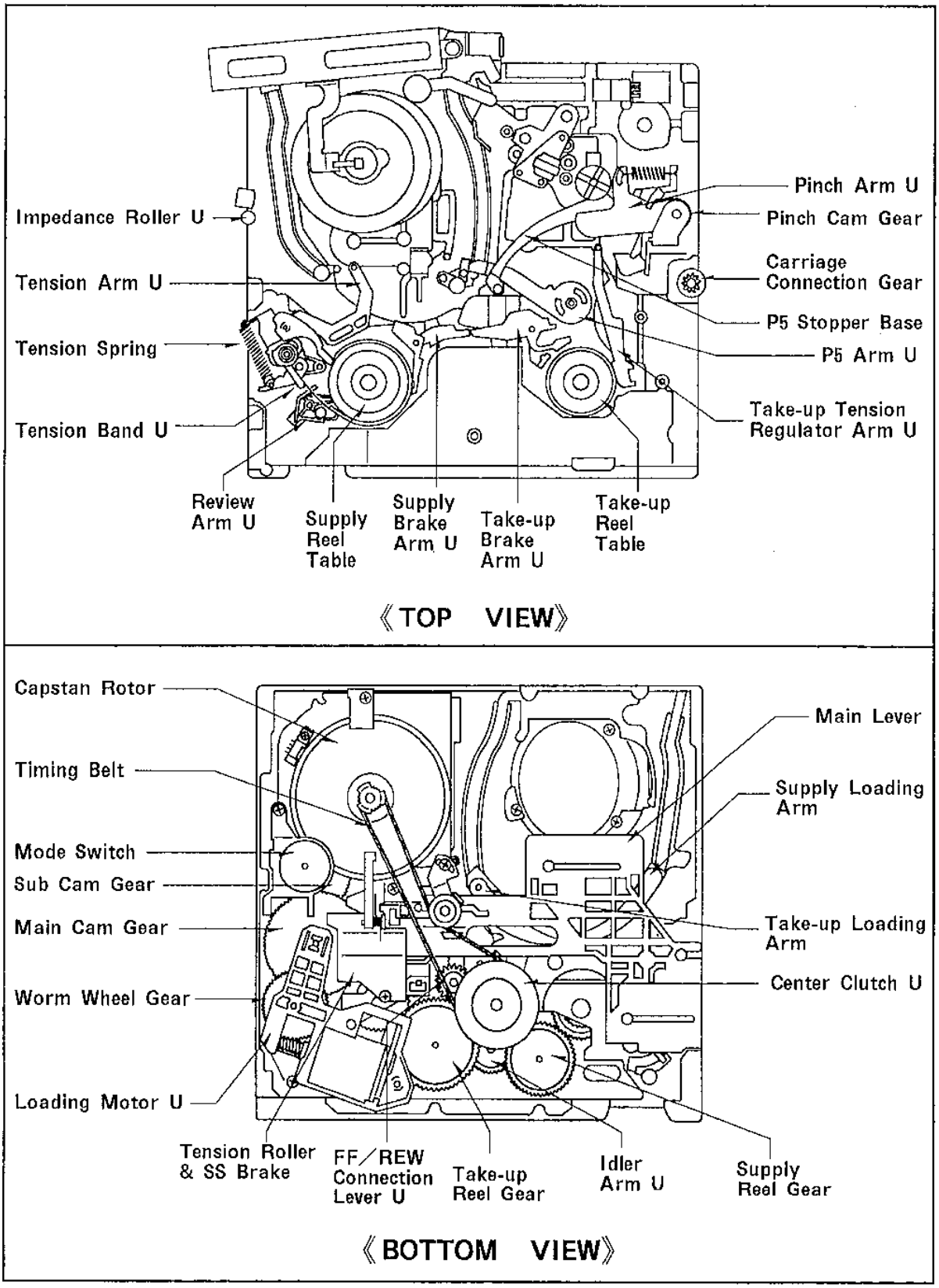
Fig.G6

1-6. SERVICE FIXTURES AND TOOLS

The regular maintenance is important to maintain the initial specification of the unit and prevent tape damage. The specified servicing fixture must be used to conduct adjustment.
The following fixtures, tools and measuring equipments are required to conduct complete Mechanical Adjustments.

VFM8080HQFP: VHS Alignment Tape 	VFK0948: Check Light 	VFK0326: Hex Wrench Set (0.7, 0.9, 1.2, 1.5, 1.6, 2.0, 2.4, 3.0mm) 
VFK0329: Post Adj. Screwdriver 	VFK0335: Retaining Ring Remover 	VFK0132: Back Tension Meter (Tentelometer,Made in U.S.A.) 
MOR265: Morlytone Grease (Black) (for metal parts) 	VFK0851: Center Fixing Tool 	VFK27: Head Cleaning Stick 
VFK0680: S.C.R. Grease (White) (for plastic parts) 	VFK66 ; Fan Type Tension Gauge 	VFK0330: Fine Adj. Screwdriver

1-7. Mechanical Parts Location



SECTION 2
MAINTENANCE PROCEDURE

The MAINTENANCE CHART please refer to the Maintenance Section which are shown in service manual for each model.

2-1. Replacement of the Upper Cylinder Unit

1. Unscrew 2 screws (A).
2. Unsolder arrows marked portions on the top of the Upper Cylinder as shown in Fig.M1.
3. Remove the Upper Cylinder.
4. The Upper Cylinder can be reinstalled by reversing the removal procedure.
   However, when insert the Upper Cylinder be extremely carefully so that marked portion of P.C.board of the Upper Cylinder correctly matches to mark of the Lower Cylinder as shown in Fig.M2.

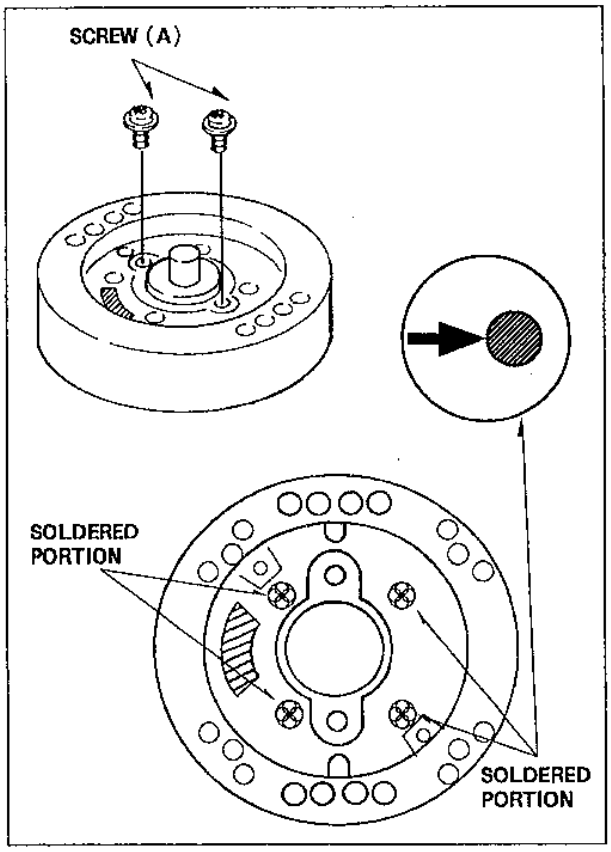


Fig.M1

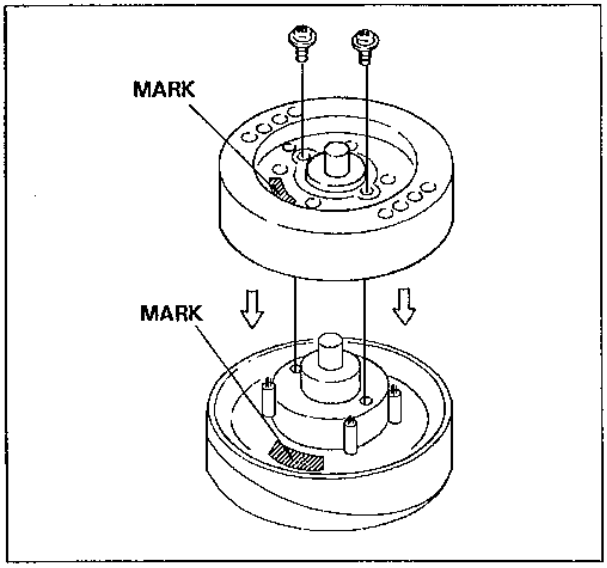


Fig.M2

<NOTE>
After reinstall the Upper Cylinder Unit should be perform Mechanical and Electrical adjustments.
3-2. FINE ADJUSTMENT of P2 and P3 POSTS
3-6. HORIZONTAL POSITION ADJUSTMENT

2-2. Replacement of Cylinder Unit

1. Remove the Earth Plate.
2. Unscrew 2 screws both side of Head Amp Unit and lift up the Head AMP.
3. Unscrew 3 screws (B) from back side of the mechanical chassis then remove the Cylinder Unit.
4. The Cylinder Unit can be reinstalled by reversing the removal procedure.

<Note>
After reinstall the Cylinder Unit should be perform Mechanical and Electrical adjustments.
3-2. FINE ADJUSTMENT of P2 and P3 POSTS
3-6. HORIZONTAL POSITION ADJUSTMENT

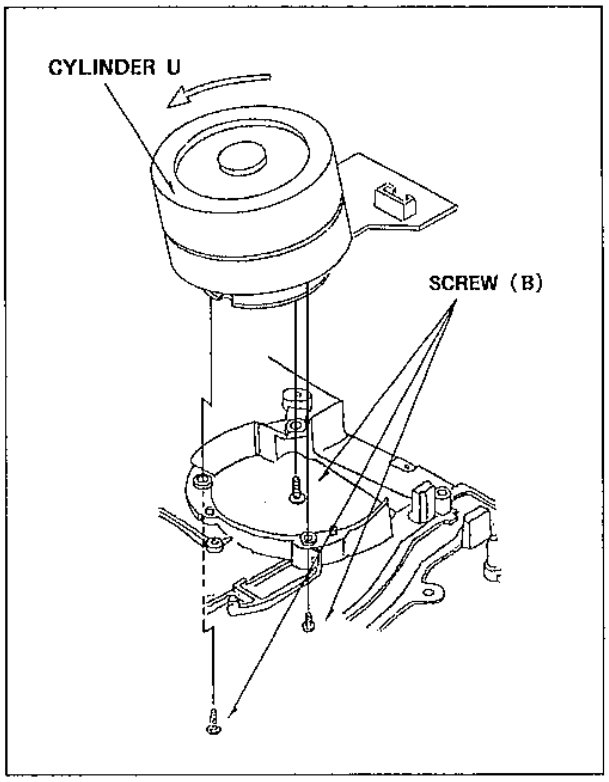


Fig.M3

2-3. Replacement of A/C HEAD Unit

1. Unscrew 3 screws (C)(D)(E) with the 3 springs then remove the A/C Head unit from the A/C Head Base.
2. The A/C Head Unit can be reinstalled by reversing the removal procedure.

<Note>
A space should be equality between the A/C Head U and the A/C Head Base when reinstall the A/C Head unit.

After reinstall the A/C Head Unit should be perform Mechanical and Electrical adjustments.
3-2. FINE ADJUSTMENT of P2 and P3 POSTS
3-3. COARSE ADJUSTMENT of A/C HEAD HEIGHT(1)
3-4. COARSE ADJUSTMENT of A/C HEAD HEIGHT(2)
3-5. FINE ADJUSTMENT of A/C HEAD HEIGHT
3-6. HORIZONTAL POSITION ADJUSTMENT

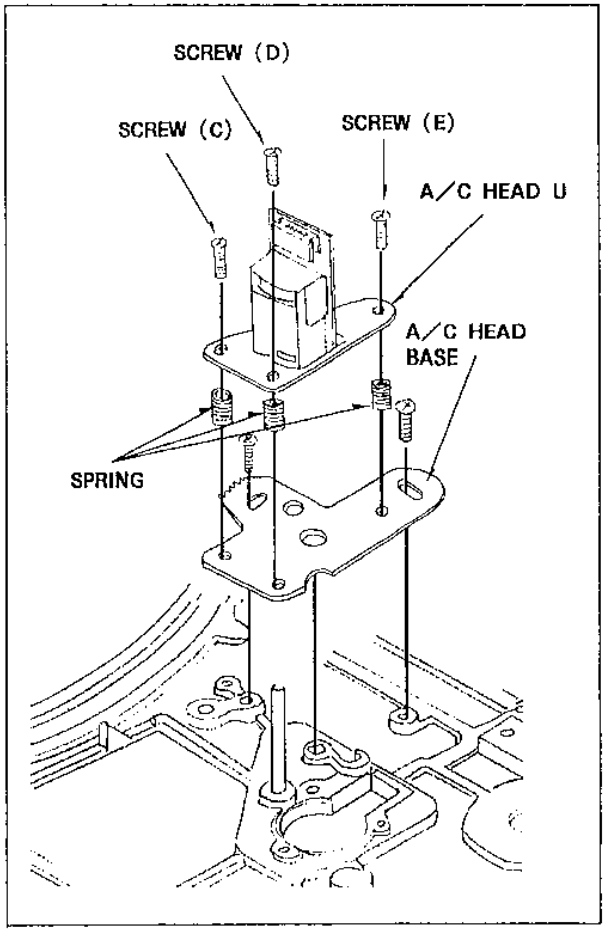


Fig.M4

2-4. Replacement of Full Erase Head Unit

1. Disconnect a connector (A).
2. Unscrew screw (F) then remove the FE Head.
3. FE Head Unit put into hole on the mechanical chassis and can be reinstalled by reversing the removal procedure.

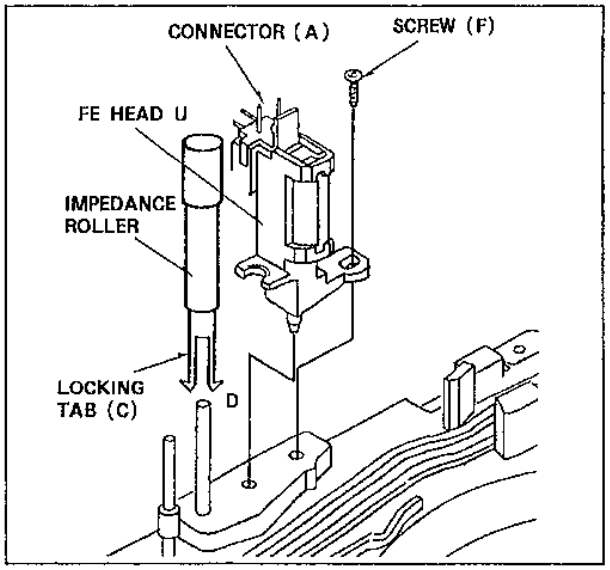


Fig.M5

2-5. Replacement of Capstan Rotor Unit and Stator Unit

1. Remove the Rotor Stopper.
2. Carefully lift up the Capstan Rotor from the Capstan Housing, taking care so as not loose the 2 Oil Seals.
3. Unscrew 3 screws (G) and remove the Capstan Stator Unit as shown in Fig.M6.
4. The Capstan Rotor and Stator can be reinstalled by reversing the removal procedure.

<Note>
After reinstall the Capstan Rotor and Stator Units should be perform Mechanical adjustment.
3-9. ADJUSTMENT of CAPSTAN HOUSING & STATOR
3-10. ADJUSTMENT of THRUST GAP
3-11. ADJUSTMENT of FG GAP

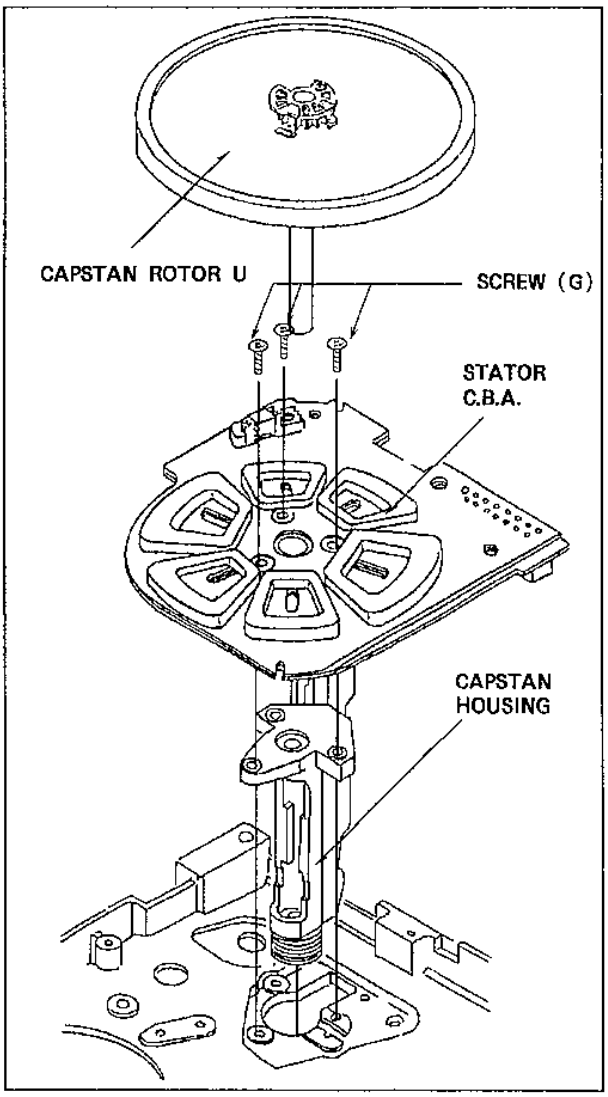


Fig.M6

2-6. Replacement of Impedance Roller Unit

1. Remove the Full Erase Head Unit with removal procedure(2-4).
2. Unlock then locking tab to direction of arrow mark as shown in Fig.M5 and remove the Impedance Roller Unit.
3. The Impedance Roller Unit can be reinstalled by reversing the removal procedure.

2-7. Replacement of Pinch Arm Unit

1. Unlock the locking tab on the Opener Piece and remove it from the shaft.
2. Remove the Pinch Arm Unit from the shaft.
3. The Pinch Arm Unit can be reinstalled by reversing the removal procedure.

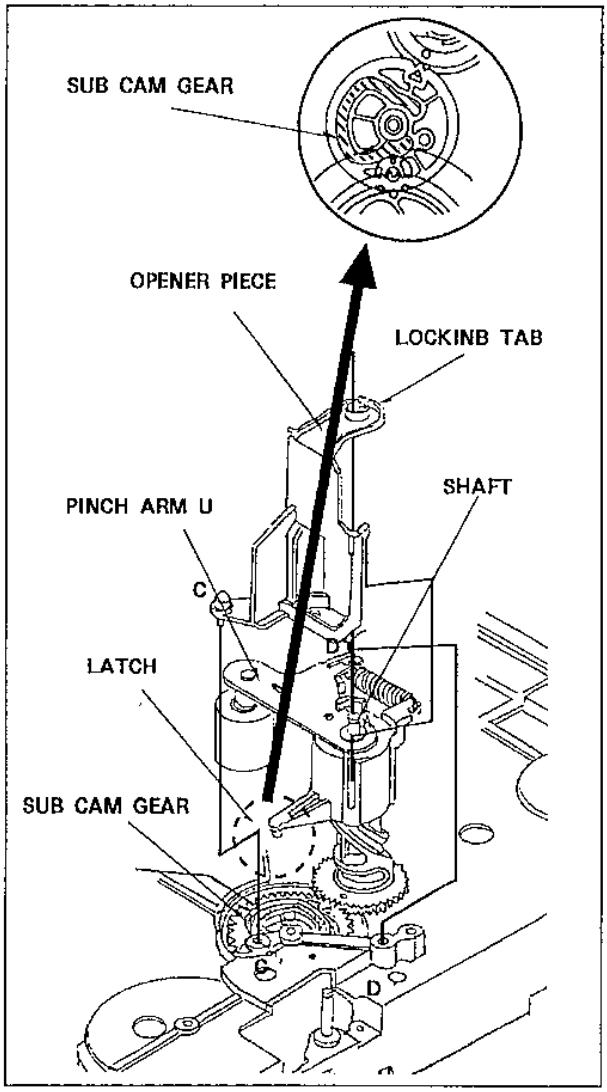


Fig.M7

2-8. Replacement of Take-up and Supply Reel Base Units

A. Supply Reel Base Unit

1. Remove the Tension Band Unit on the Supply Reel Base Unit.
2. Push the Supply main Brake Arm to direction of arrow mark and unlock the locking tab on the Supply Reel Base then pull up the Supply Reel Base Unit as shown in Fig.M8.
3. The Supply Reel Base Unit can be reinstalled by reversing the removal procedure.

B. Take-up Reel Base Unit

1. Push the Take-up Main Brake Arm to direction of arrow mark and unlock the locking tab on the top of Take-up Reel Base then pull out the Supply Reel Base Unit as shown in Fig.M8.

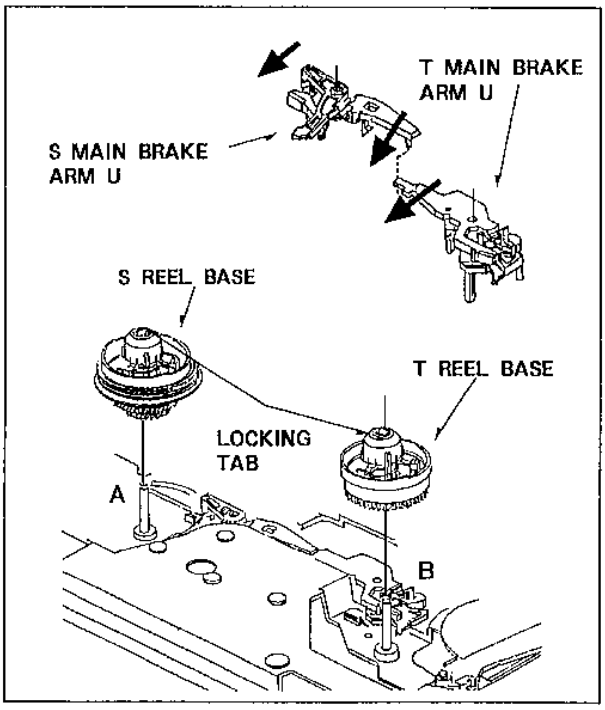


Fig.M8

2-9. Replacement of Take-up and Supply Brake Arm Unit.

1. Unlock the locking tab (A) to direction of arrow mark and lift up the Supply Brake Arm Unit.
2. Unlock the locking tab (B) and lift up the Take-up Brake Arm Unit.
3. Both Brake Arm Units can be reinstalled by reversing the removal procedure.
   However the boss (C) of the Supply Brake Arm Unit insert to hole (E) of mechanical chassis while pushing the Main Lever to direction of arrow mark as shown in Fig.M9. (expanded view)

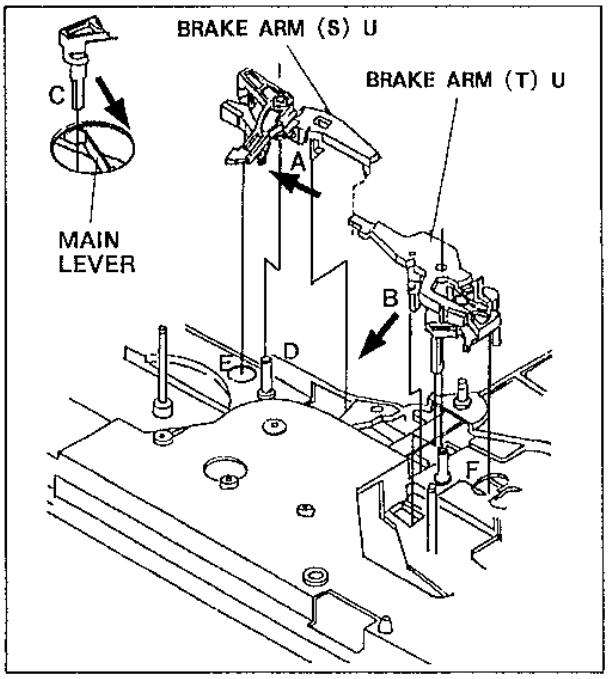


Fig.M9

2-10. Replacement of Tension Band Unit

1. Remove the cut washer (H) and lift up the Tension Arm Unit with the Tension Band and spring from the Tension Spring Arm.
2. Unlock the locking tab (A) to direction of arrow mark and remove the Tension Band from the Arm Unit.
3. Unlock the locking tab (B) and remove the Tension Band from the Tension Arm Unit.
4. The Tension Band Unit can be reinstalled by reversing the removal procedure.

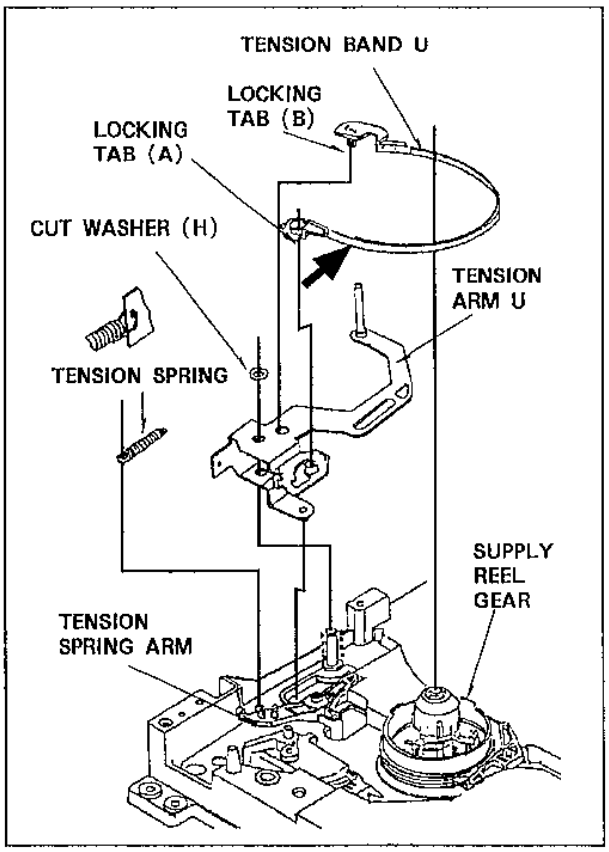


Fig.M10

2-11. Replacement of Loading Motor Unit

1. Unscrew screw (I).
2. Unlock the locking tab (A) from the top of the mechanical chassis.
3. Lift up the Loading Motor Bracket and push it to direction of arrow mark as shown in Fig.M11.
4. When reinstall the Loading Motor Unit, insert the locking hole (B') of Loading Motor Bracket Unit to shaft (B) on the mechanical chassis. Also a hole (C) of the loading Motor Unit must be matched to the shaft (C') as shown in Fig.M11.

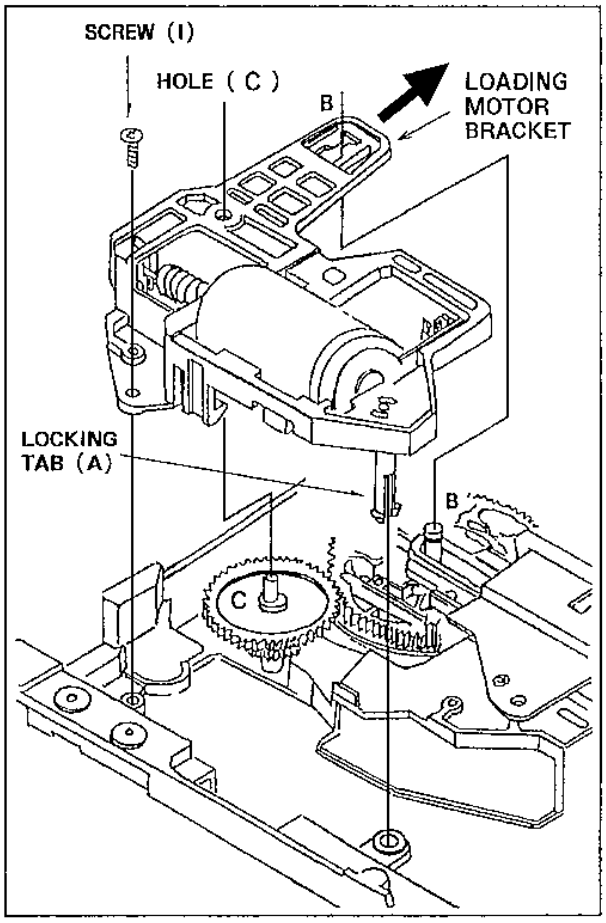


Fig.M11

2-12. Replacement of Cleaner Roller Unit

1. Unlock the locking tab (A) as shown in Fig.M12. and lift it up.
2. The Cleaner Roller Unit can be reinstalled by reversing the removal procedure.

3. Replacement of the Cleaner Rubber Unit.
   Hold the Cleaner Roller Unit and unlock the locking tab (B) then lift it up.

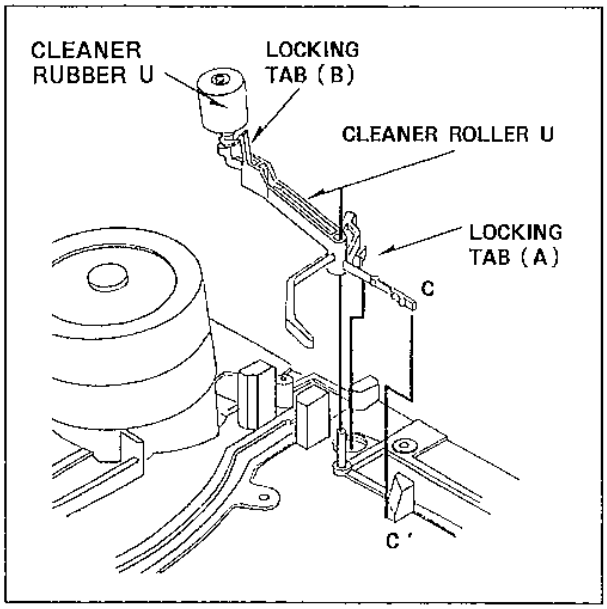


Fig.M12

2-13. Replacement of SS Brake Base Unit and Timing Belt

1. Remove the Timing Belt.
2. Unscrew (J) and (K) then remove SS Brake Base Unit.
3. SS Brake Unit and Timing Belt can be reinstalled by reversing the removal procedure.

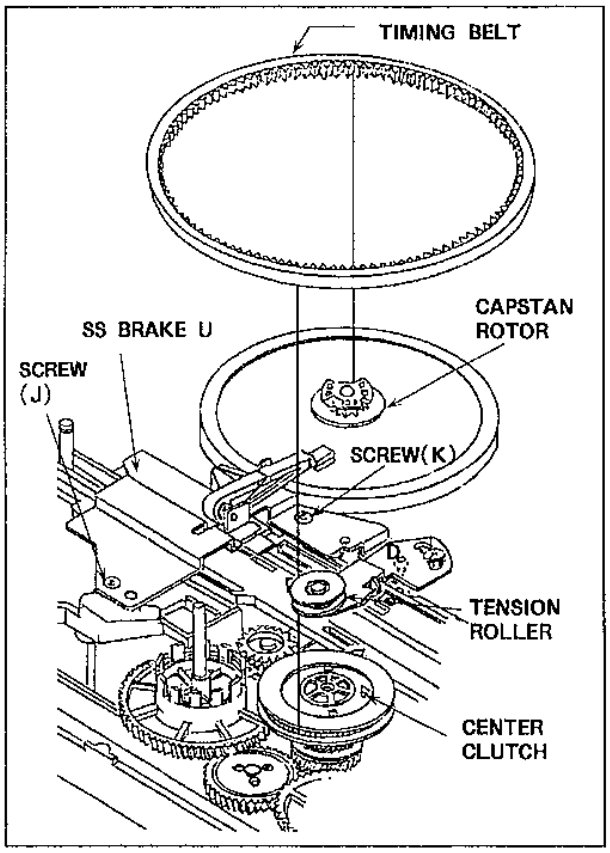


Fig.M13

2-14. Replacement of Supply & Take-up Inclined Base Unit

1. Remove SS Brake Unit, Main Lever Unit and Supply and Take-up Loading Arm Unit refer to SECTION 2. and 3. in this service manual.
2. Remove the Inclined Holder base (A) from back side of mechanism chassis.
3. Remove the Supply and Take-up Inclined Base Units.
4. The both Inclined Base Units can be reinstalled by reversing the removal procedure.

<NOTE>
After reinstall the Inclined Base Unit should be perform Mechanical adjustment.

3-2. FINE ADJUSTMENT of P2 and P3 POSTS
3-5. FINE ADJUSTMENT of A/C HEAD HEIGHT
3-6. HORIZONTAL POSITION ADJUSTMENT of A/C HEAD

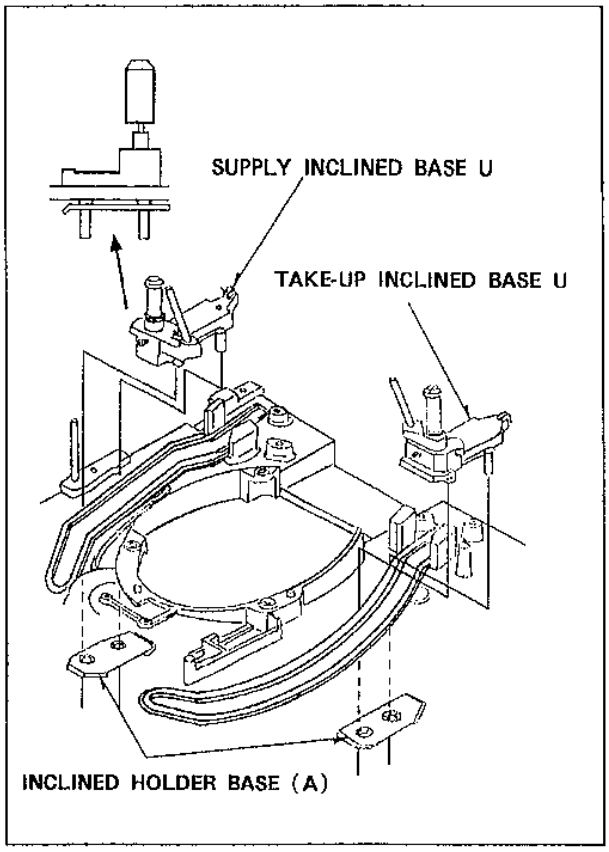


Fig.M14

SECTION 3
MECHANICAL ADJUSTMENT PROCEDURE

3-1. Coarse Adjustment of Tape Guide Post Height

1. Remove the Top Plate and Cassette Holder.
2. Turn the Loading Motor until the unloading completes.
3. Loosen the fixing screw of P2 and P3 Posts.
4. Rotate the P2 and P3 Posts clockwise to the end.
5. Rotate the P2 and P3 Posts twice counter-clockwise as shown in Fig.M15.
6. Install the Cassette Holder and Top Plate.
7. Playback the normal tape and make sure that the edge of not curing at the bottom or top end of the P1,P2,P3 and P4 Posts as shown in Fig.M17.

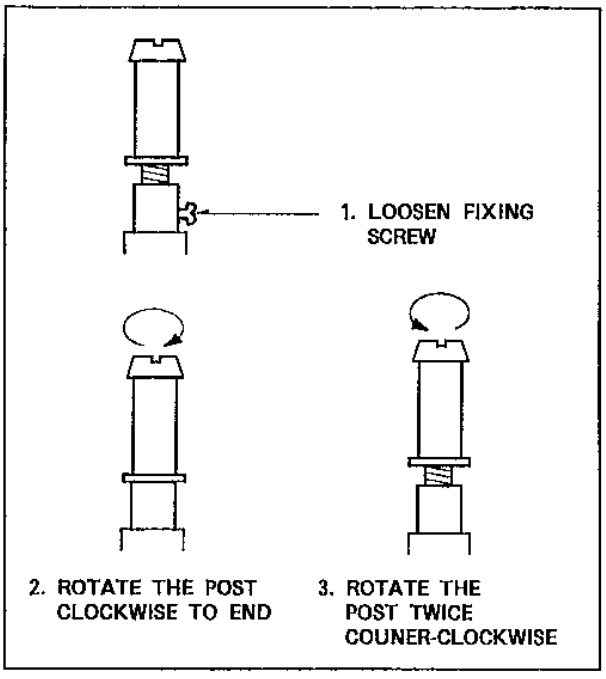


Fig.M15

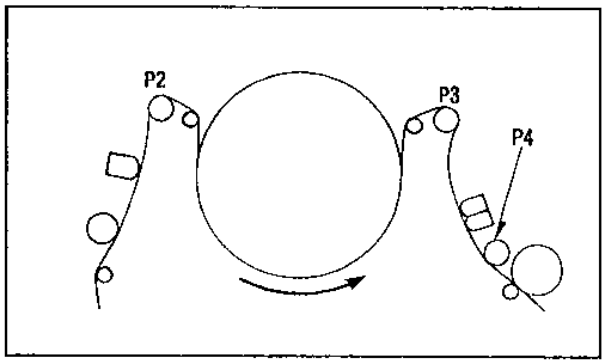


Fig.M16

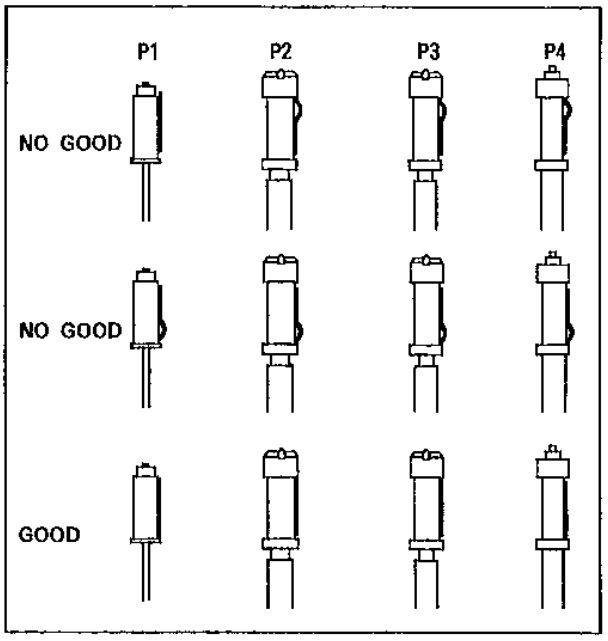


Fig.M17

3-2. Fine Adjustment of P2 and P3 Posts

1. Connect the oscilloscope to the Test Point of the HEAD AMP (Video RF Envelope) and the head switching pulse as a triggering signal.

<NOTE>
TEST POINT please refer to the MECHANICAL ADJUSTMENT INFORMATION which are shown in service manual for each model.

2. Playback the 2nd portion of the alignment tape.
3. Press the tracking control button on the Front panel and adjust for maximum Video RF envelope.
4. If the RF envelope appears like example "A" or "B" in Fig.M18 then adjustment of the tape guide post (P3:Exit) is necessary.
5. Adjust the P3 post with the post adjustment screwdriver so that the RF envelope waveform at the exit portion becomes flat as shown in Fig.M18.
6. If the RF envelope appears like example "C" or "D" in Fig.M18 then adjustment of the tape guide post (P2:Entrance) is necessary.
7. Adjust the P2 post with the post adjustment screwdriver so that the RF envelope waveform at the entrance portion becomes flat as shown in Fig.M18.

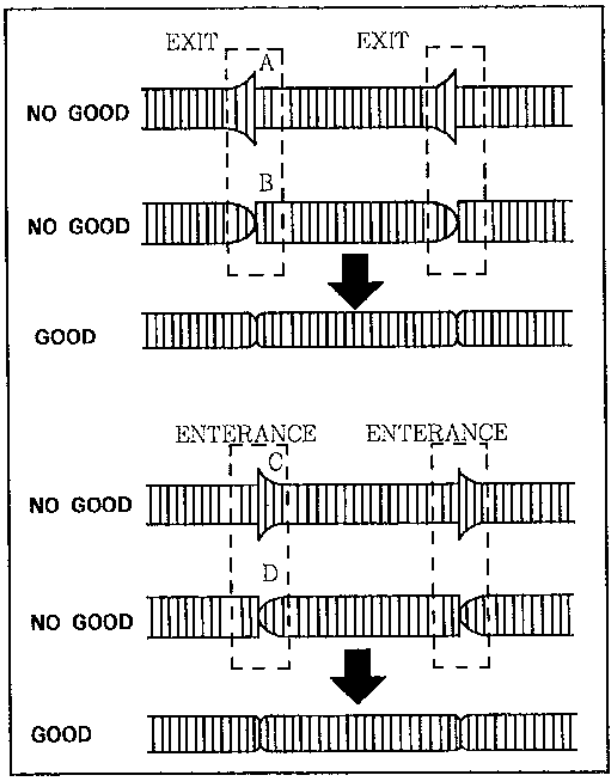


Fig.M18

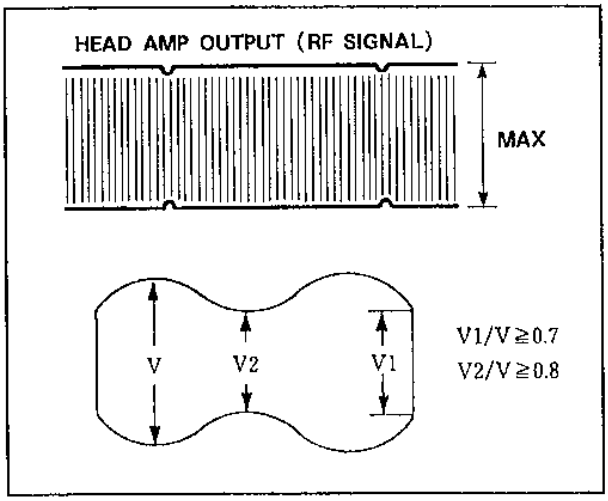


Fig.M19

3-3. Coarse Adjustment of A/C Head Height (1)

<NOTE>
This procedure should be performed only when the A/C Head is replaced.

1. Playback the normal tape.
2. Turn the 3 screws (A)(B)(C) mutually so that lower edge of tape running at lower edge of A/C Head and confirm a space as much as possible to flat between the A/C Head Unit and the A/C Head Base.

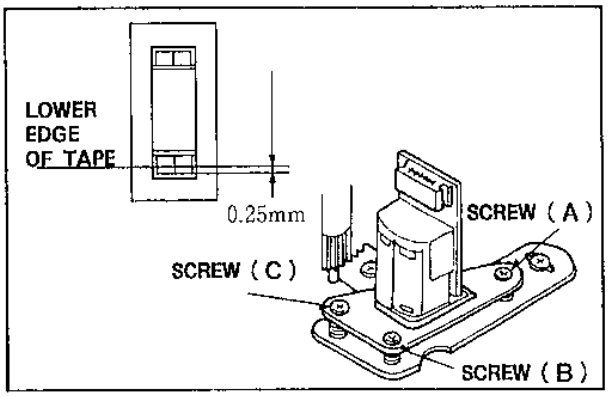


Fig.M20

3-4. Coarse Adjustment of A/C Head Height (2)

1. Playback the normal tape.
2. Rotate the screw (A) as shown in Fig.M20 until the wrinkle appears on the lower edge of tape at P4 Post.
3. Rotate the screw (B) until the wrinkle just disappear on the lower edge of tape at P4 Post.

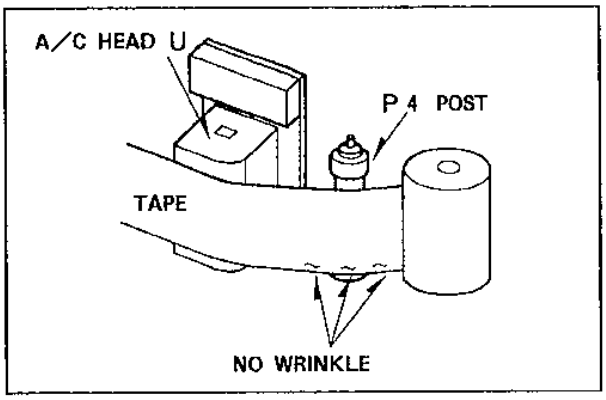


Fig.M21

3-5. Fine Adjustment of A/C Head Height

1. Connect the oscilloscope to the Audio output.
2. Playback the 2nd portion of the alignment tape.
3. Rotate the screw (C) so that audio signal becomes maximum.

<When moving the A/C Head up>

1. Rotate the screw (A) counter-clockwise until the wrinkle appears on the lower edge of tape at P4 Post.
2. Rotate the screw (B) counter-clockwise until just disappears on the lower edge of tape at P4 Post.
3. Rotate the screw (C) counter-clockwise until the audio signal is maximized.

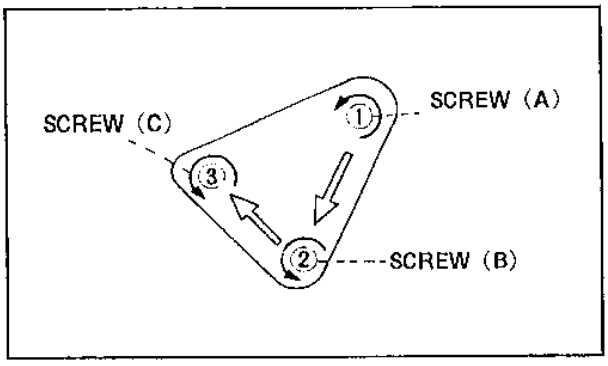


Fig.M22

<When moving the A/C Head down>

1. Rotate the screw (B) clockwise until the wrinkle appears on the lower edge of tape at P4 Post.
2. Rotate the screw (A) clockwise until the wrinkle just disappear on the lower edge of tape at P4 Post.
3. Rotate the screw (C) clockwise until the audio signal is maximized.

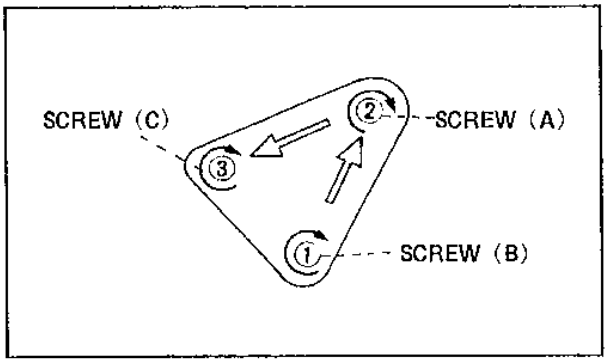


Fig.M23

3-6. Horizontal Position Adjustment of A/C Head.

<NOTE>
TEST POINT and JUMPER WIRE position, please refer to the MECHANICAL ADJUSTMENT INFORMATION which are shown in service manual for each model.

1. Set the tracking control into the center fix position by connect a jumper wire on the MAIN C.B.A.
2. Connect the oscilloscope to the Audio output, Video RF envelope on the Head Amp test point and head switching pulse on the Head Amp test point as for triggering.
3. Playback the 4th portion of the alignment tape.
4. Loosen the 2 screws (D)(E).
5. Adjust the A/C Head Base (F) so that the phase of audio drop-out and RF video drop-out becomes the same as possible. Fig.M24.
6. Playback the 2nd portion of the alignment tape.
7. Adjust the A/C Head Base (F) until the video RF signal is maximized.
8. Carefully tighten screw (D) with hold the A/C Head Base position with the Fine Adjustment Gear Driver then tighten screw (E).

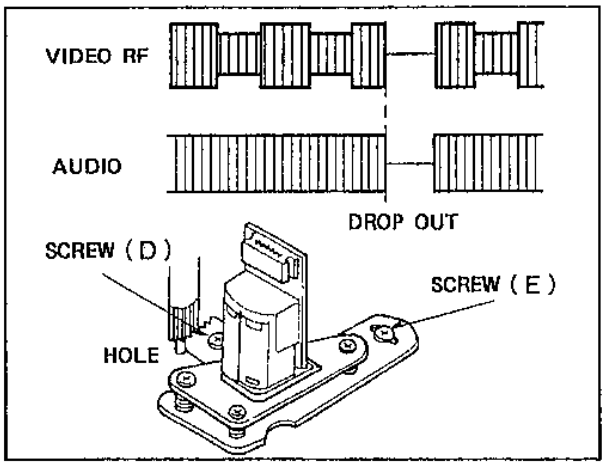


Fig.M24

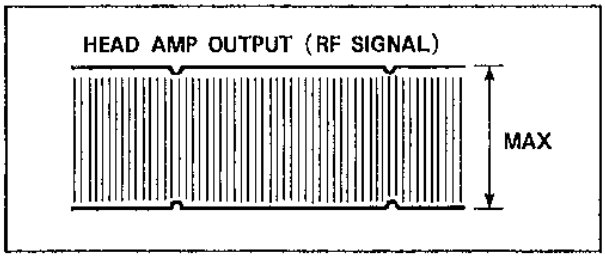


Fig.M25

3-7. Adjustment of Tension Post Position

1. Remove the Top Plate and Cassette Holder.
2. Turn the Loading Motor until the loading completes.
3. Adjust the hole of the Tension Band Unit by Hex wrench so that the left edge of the Impedance Roller and Tension Arm Unit as shown in Fig.M26.

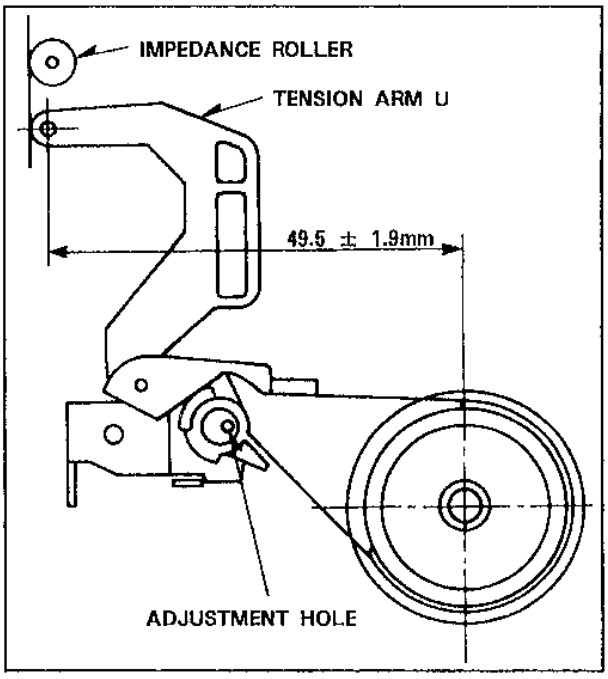


Fig.M26

3-8. Adjustment of Back Tension

1. Playback the cassette tape from the begging of tape and wait until tape movement has stabilized.
2. Insert the back tension meter into the path of the tape and confirm the back tension to be within specification as shown in Fig.M27.
3. If back tension is not in the specification, change the spring notch as shown in Fig.M28.

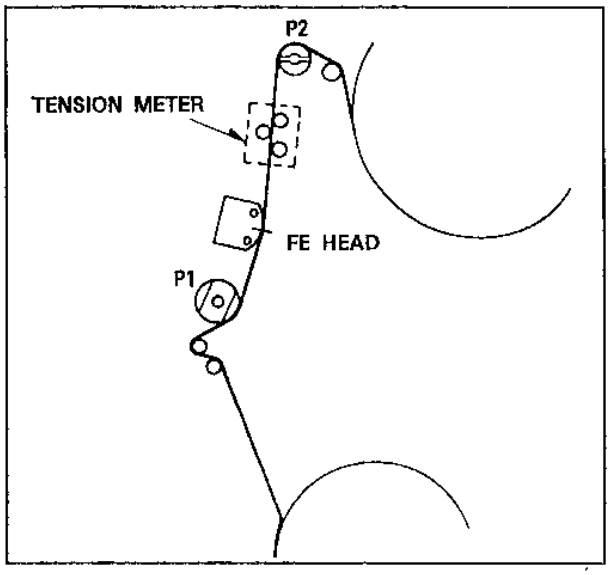


Fig.M27

<NOTE>
Specification of Back Tension, please refer to the MECHANICAL ADJUSTMENT INFORMATION which are shown in service manual for each model.

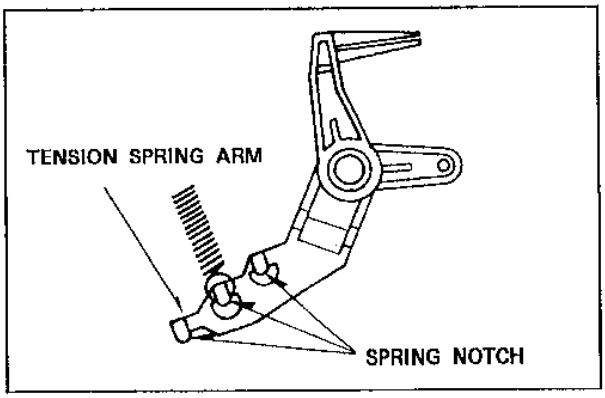


Fig.M28

3-9. Adjustment of Capstan Housing & Stator.

1. Install the Capstan Housing into the mechanical chassis and place the Capstan Stator into position.
2. Loosely tighten 3 screws (G).
3. Insert the Center Fixing Tool (VFK0851) as shown in Fig.M29.
4. Tighten 3 screws (G).
5. Remove the Center Fixing Tool.

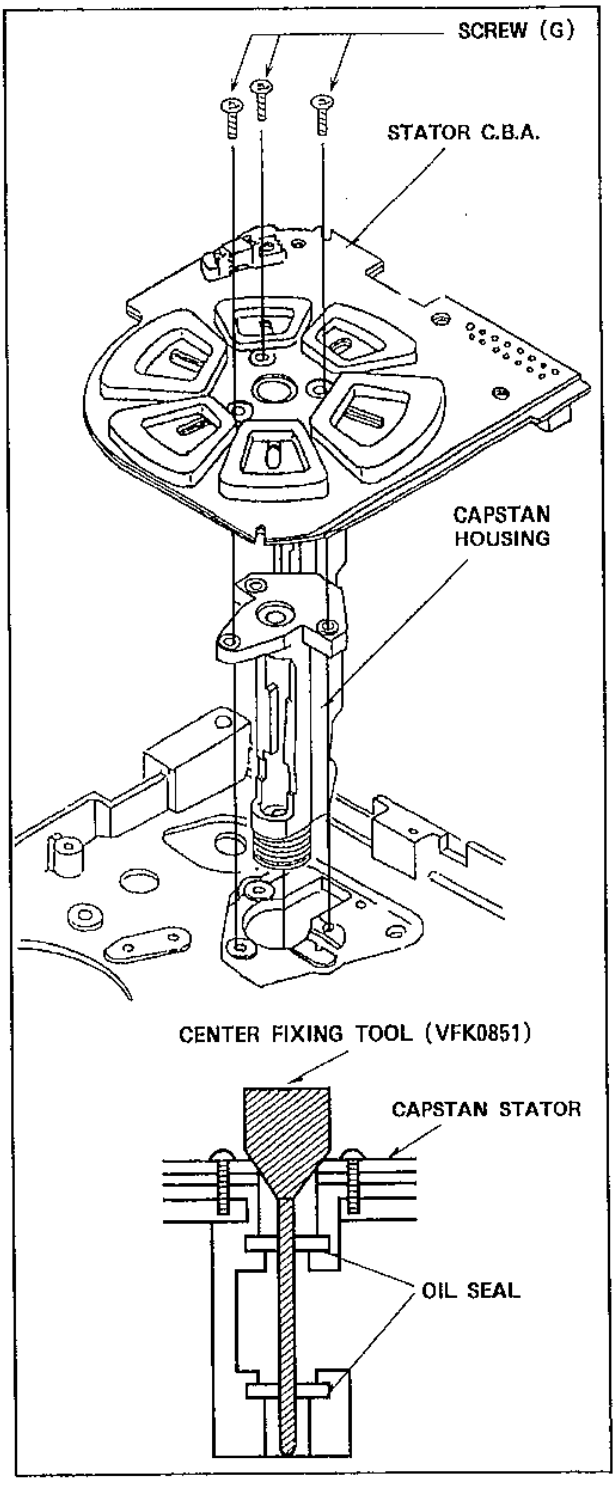


Fig.M29

3-10. Adjustment of Thrust Gap

1. Turn the Thrust Adjustment Screw clockwise to until the Capstan Rotor just separate from the Capstan Stator while rotating the Capstan Rotor by hand.
2. Turn the Thrust Adjustment Screw clockwise to 180 degrees from point at step 1.
3. Set the 2 Oil Seal to edge of the Capstan Housing as show in Fig.M30.

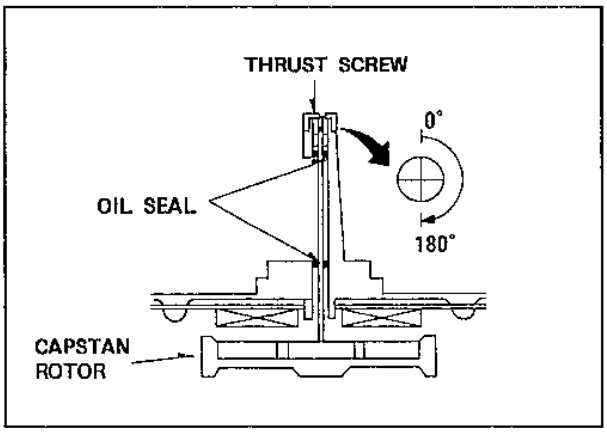


Fig.M30

3-11. Adjustment of FG GAP

1. Loosen screw (H) and set the Fine Adjustment Screw Driver in the hole on the Capstan Stator Unit.
2. Adjust the gap between FG Head and the Capstan Rotor.
3. After adjustment, tighten a screw (H).

<NOTE>
Specification of FG GAP, please refer to the MECHANICAL ADJUSTMENT INFORMATION which are shown in service manual for each model.

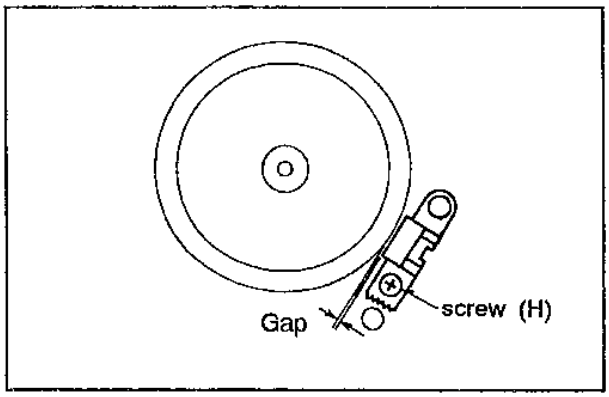


Fig.M31

3-12. Pressing Force Confirmation of the Pressure Roller

1. Playback the end portion of the 120 minutes tape.
2. Set the Fan type tension gauge to point (A) and push to direction indicated by the arrow (B) as shown in Fig.M32.
3. Confirm that reading of tension gauge is in specification at momentary stop the tape running.

<Note>
Specification of PRESSING FORCE, please refer to the MECHANICAL ADJUSTMENT INFORMATION which are shown in service manual for each model.

If the pressing force is not in specification, change the pressure spring.

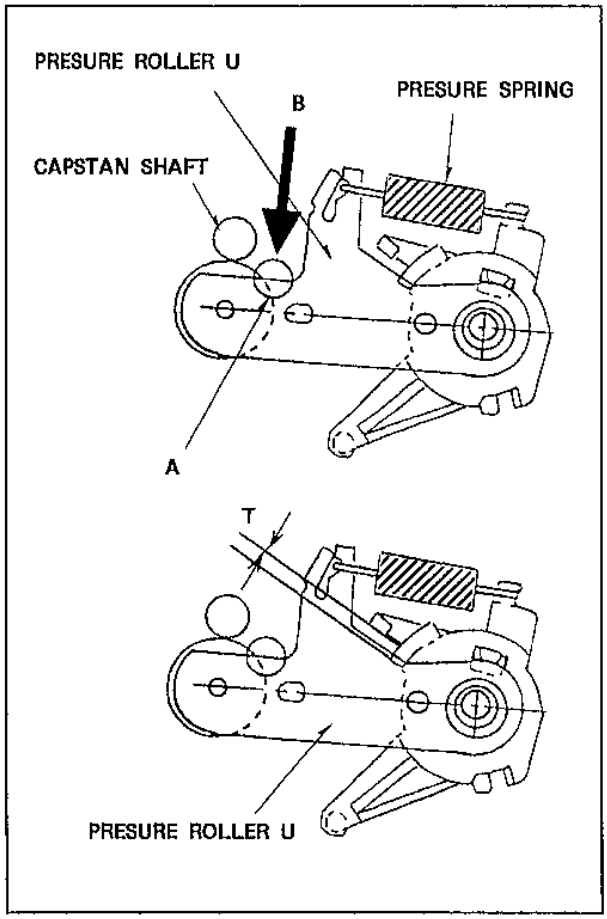


Fig.M32

SECTION 4
ASSEMBLY & PHASE ADJUSTMENT PROCEDURE

4-1. Assembly Procedures of Mechanism

The gear phase alignment is performed in the cassette down position and is crucial for the K-Mechanism to operate correctly.

1. Top view of gear phase alignment marks.
   There are alignment marks on the pinch cam gear and sub cam gear. there is one alignment mark on the carriage gear.

2. Bottom view of gear phase alignment marks.
   There are alignment marks on take-up loading gear and supply loading gear. There is an additional mark on the take-up loading gear that aligns with the mark on the main lever. There are alignment marks on the main cam gear and the sub cam gear. The mode switch gear mark aligns with a notch in the mode switch frame.

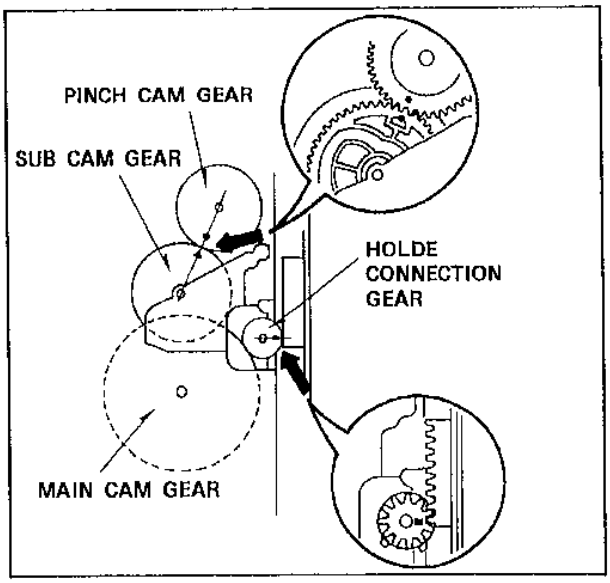


Fig.M33

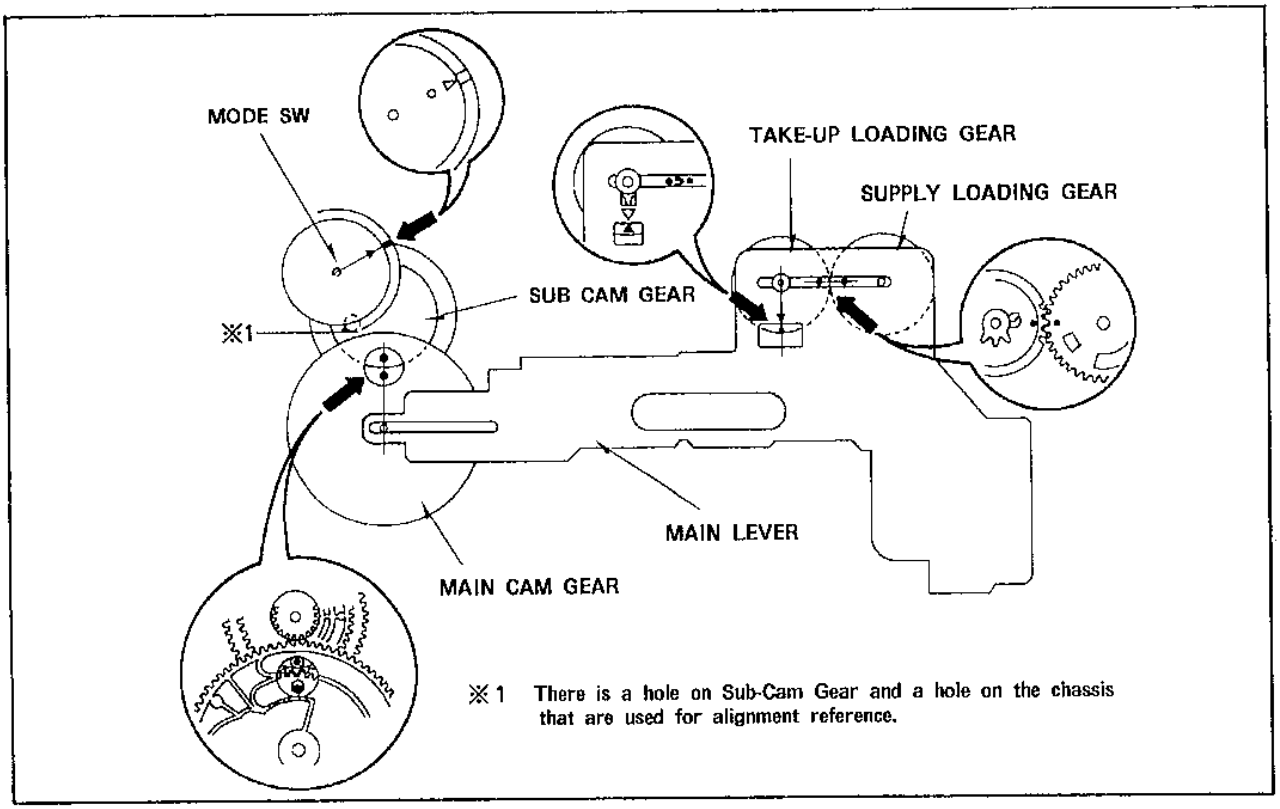

MODE SW
TAKE-UP LOADING GEAR
SUPPLY LOADING GEAR
SUB CAM GEAR
※1
MAIN LEVER
MAIN CAM GEAR
※1 There is a hole on Sub-Cam Gear and a hole on the chassis that are used for alignment reference.

Fig.M34

4-2. Assembly of parts on the Top Chassis

1. Install the Pinch Cam Gear onto shaft (A) and the P5 Arm Unit onto shaft (B).
2. Install the P5 Stopper Base with the cut washer (D) and screw (C).
3. Install the P5 Stopper on the P5 Stopper Base with latch (E).

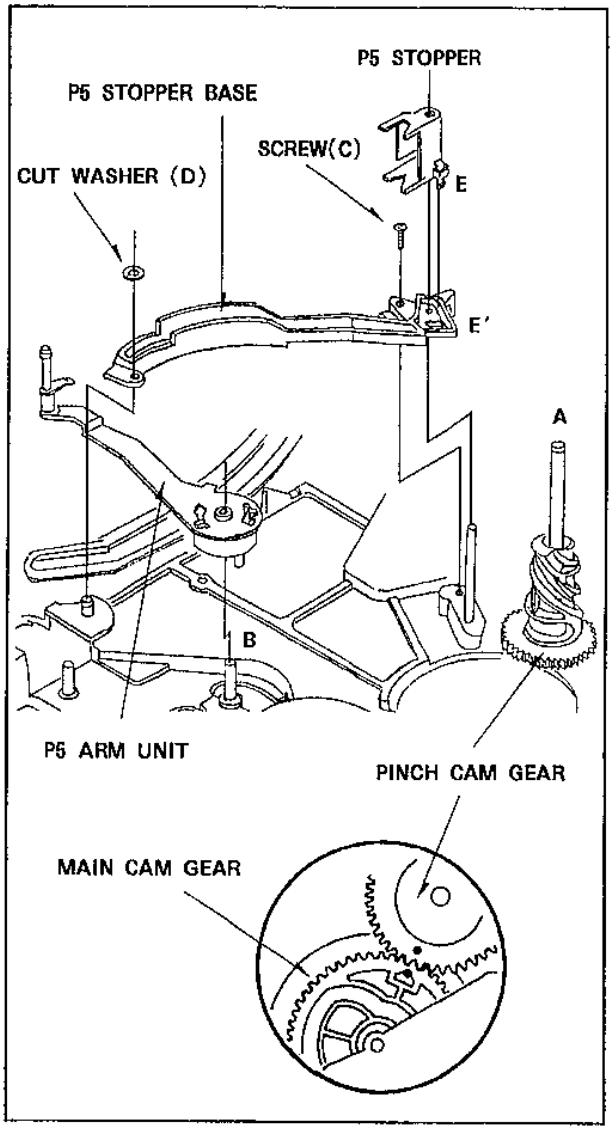


Fig.M35

4-3. Assembly of parts on the Bottom Chassis

1. Install the Idler Arm Unit onto shaft (F).
2. Install the Take-up and Supply Reel Gears onto shaft (G) and (H).
3. Install the Idler Regulator Level onto shaft (I) then install the Direct Lever.
4. Install the Center Clutch onto shaft (F) with the cut washer.

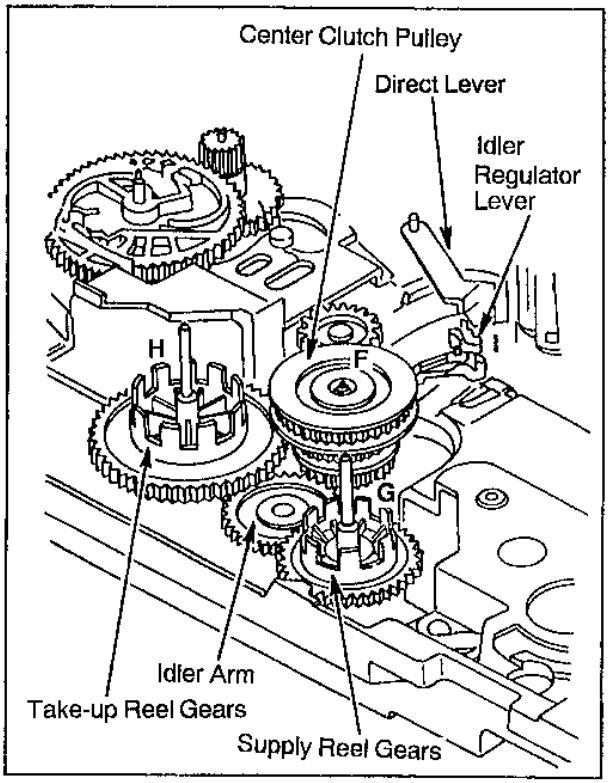


Fig.M36

4-4. Assembly of Main Cam Gear and Sub Cam Gear

1. Install the Sub Cam Gear on to shaft (J) so that the chassis hole aligns with hole in the Sub Cam Gear.
2. Rotate the Holder Connection Gear to position of arrow mark as shown in Fig.M37.
3. Install the Main Cam Gear onto shaft (K) so that the hole of the Main Cam Gear aligns with the hole in the Sub Cam Gear. Also insert the boss of the Take-up Tension Regulator Arm into the slot on the Main Cam Gear.

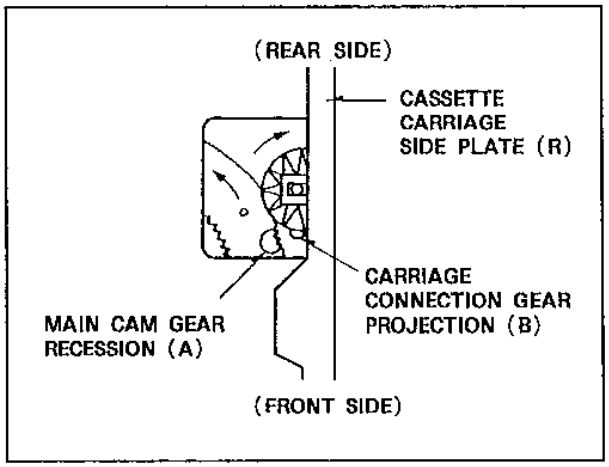


Fig.M37

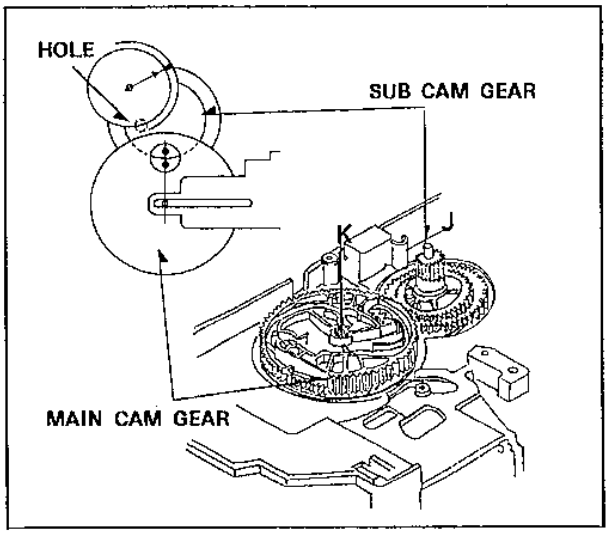


Fig.M38

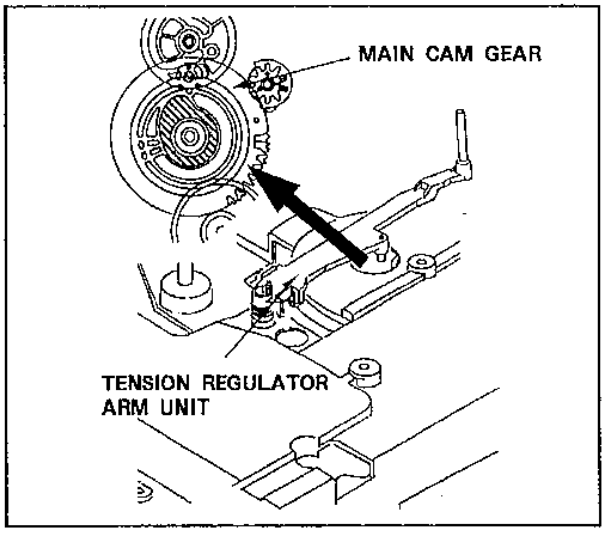


Fig.M39

4-5. Assembly of Mode Switch

1. Align a triangle mark on the Mode Switch Gear with the notch on the Mode Switch frame.
2. Confirm the Main and Sub Cam Gears aligned properly then install the Mode Switch with screw (L).

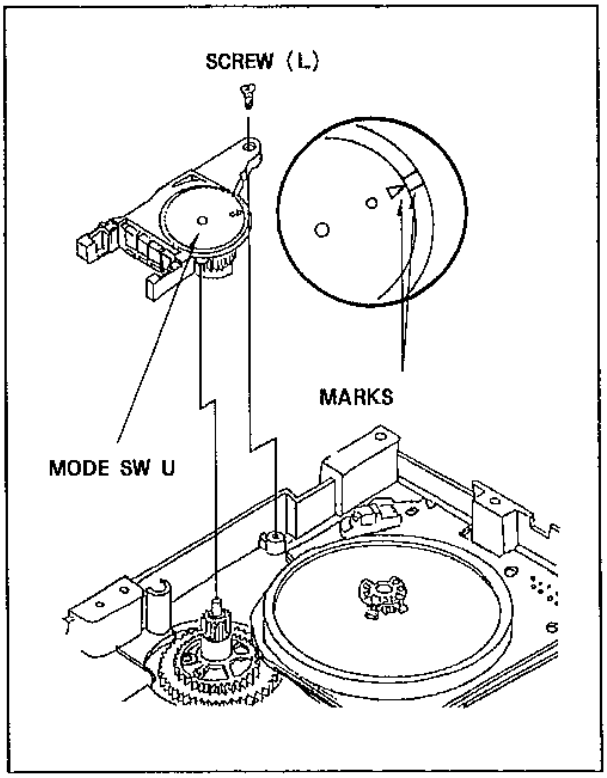


Fig.M40

4-6. Assembly of Take-up and Supply Loading Gears.

1. Install the Supply Loading Gear onto the shaft (S).
2. Install the Take-up Loading Gear onto the shaft (T) so that hole on the Take-up Loading Gear align with the hole on the Supply Loading Gear.
3. Install the Supply Loading Arm onto shaft of the Supply Inclined Base with washer.
4. Insert the Take-up Loading Arm onto shaft of the Take-up Inclined Base with washer.

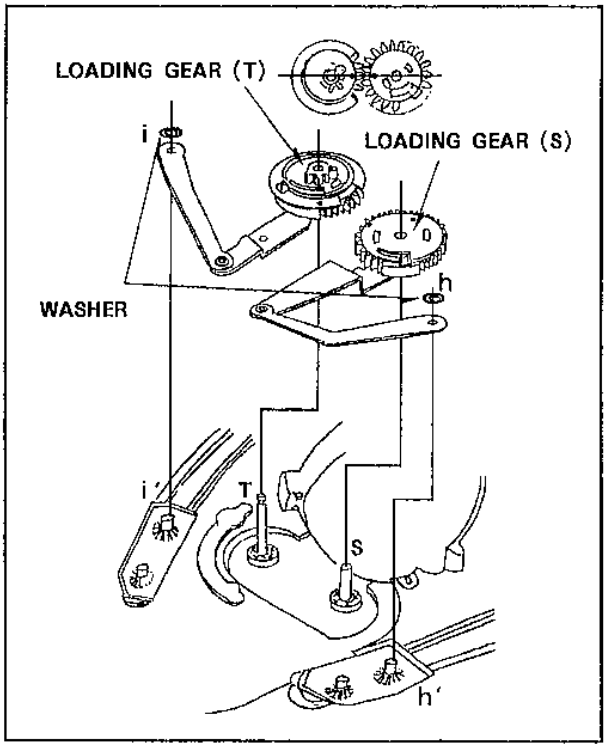


Fig.M41

4-7. Assembly of Main Lever

1. Install the Main Lever Arm checking that the boss of arms and shafts are in correct position and mark on the Main Lever Arm is aligned with mark on the Take-up Loading Gear.
2. Insert the 2 cut washer as shown in Fig.M42.

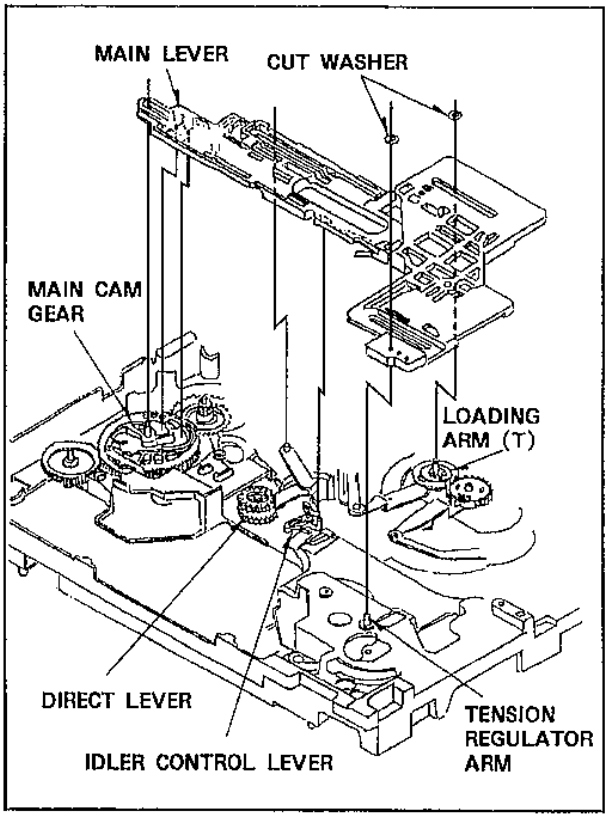


Fig.M42

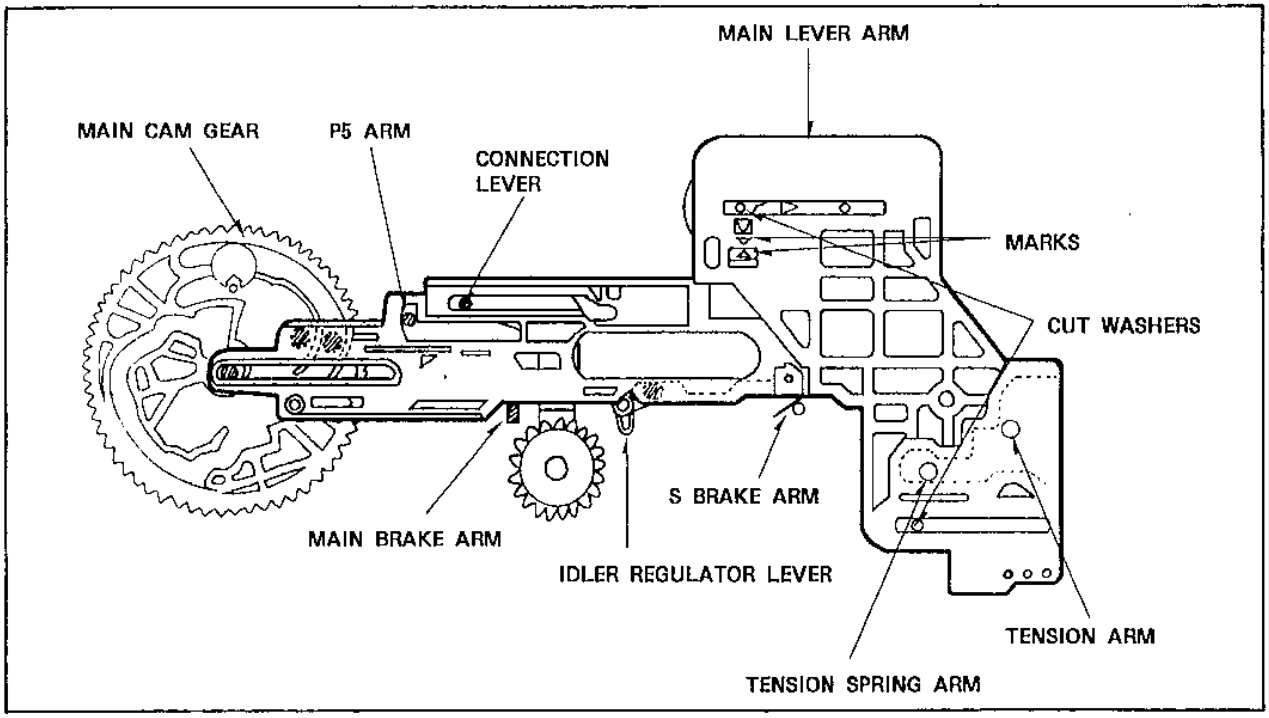


Fig.M43

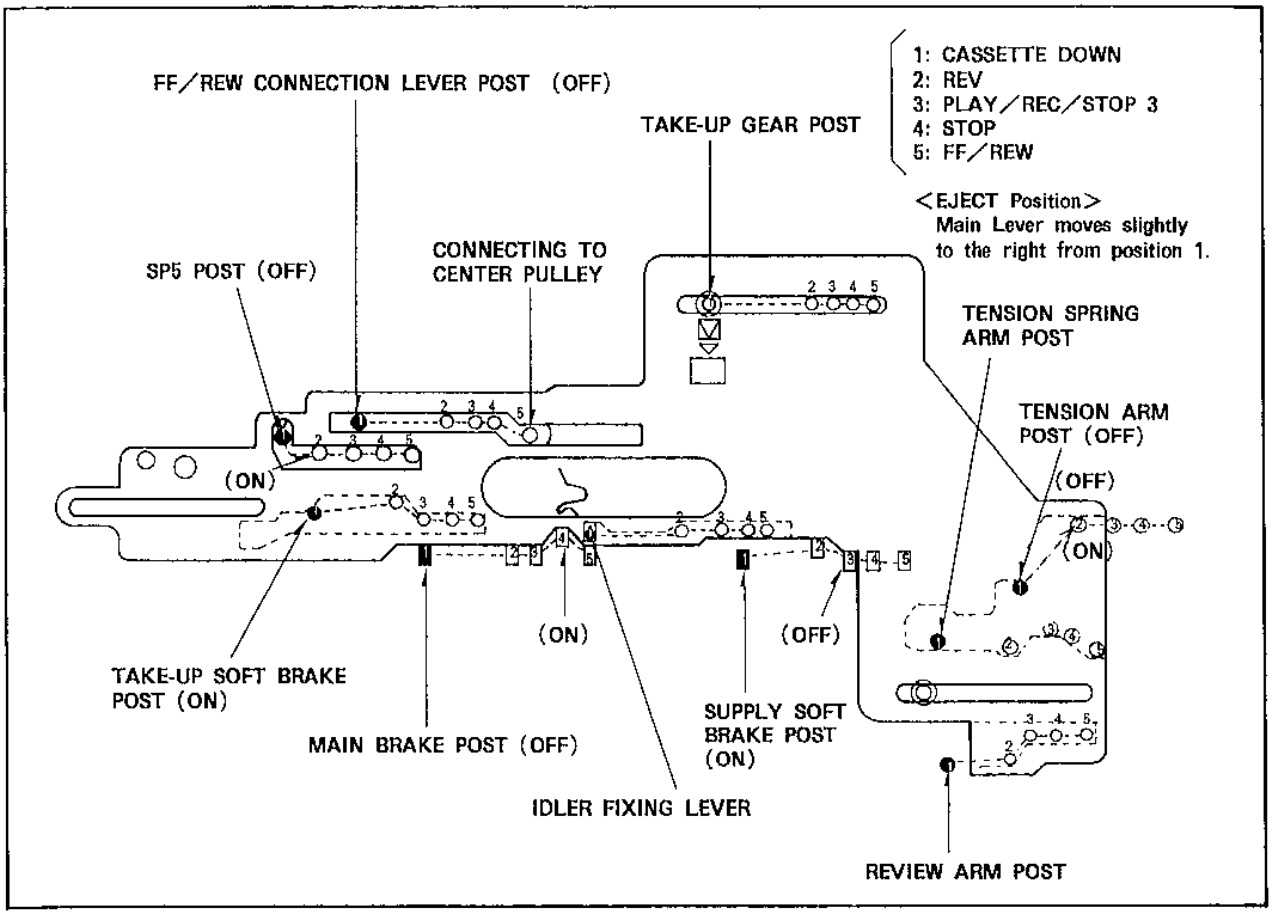


Fig.M44

4-8. Reinstall of the Cassette Compartment

1. Push the locking tabs to direction as shown in Fig.M45 and remove the Top Plate.

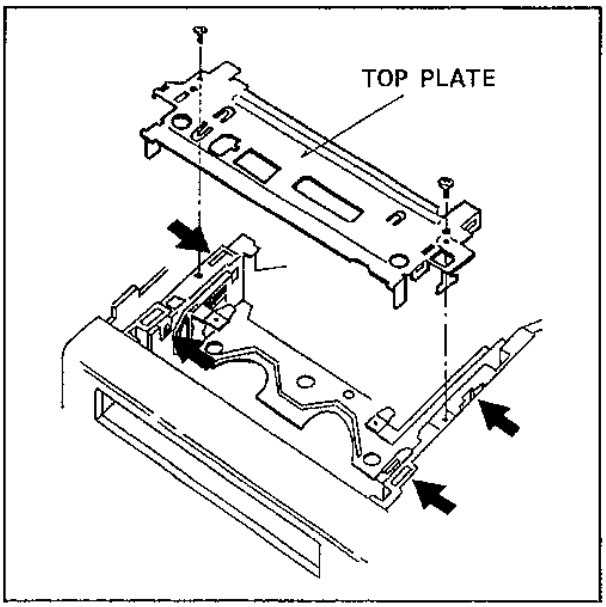


Fig.M45

2. Lift up the Cassette Holder Unit as shown in Fig.M46.

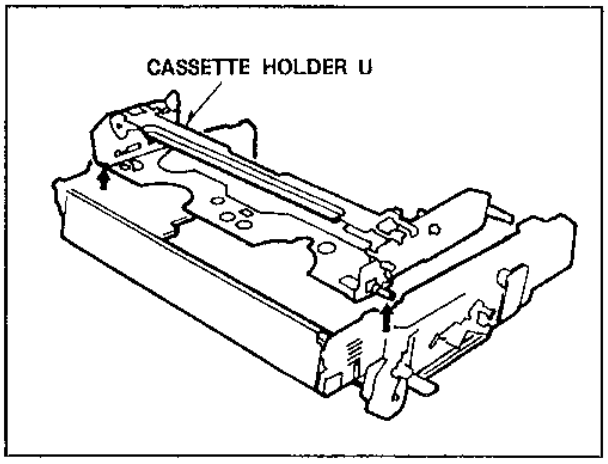


Fig.M46

3. Press the Wiper Arm to direction indicated by arrow mark so that the Wiper Arm comes to cassette down position completely as shown in Fig.M48. Confirm a triangle mark on the Wiper Arm aligns with the mark on the Rack (B) Unit.

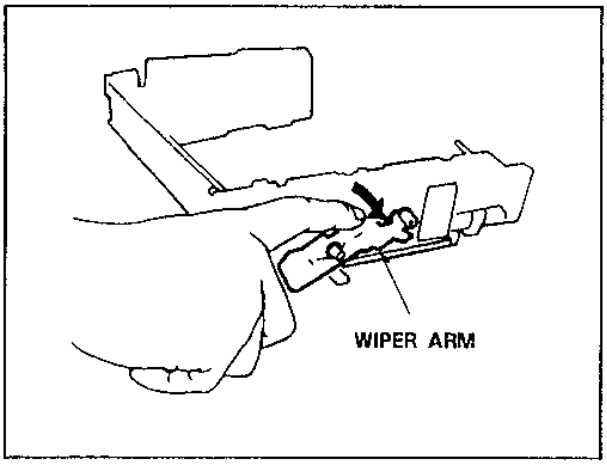


Fig.M47

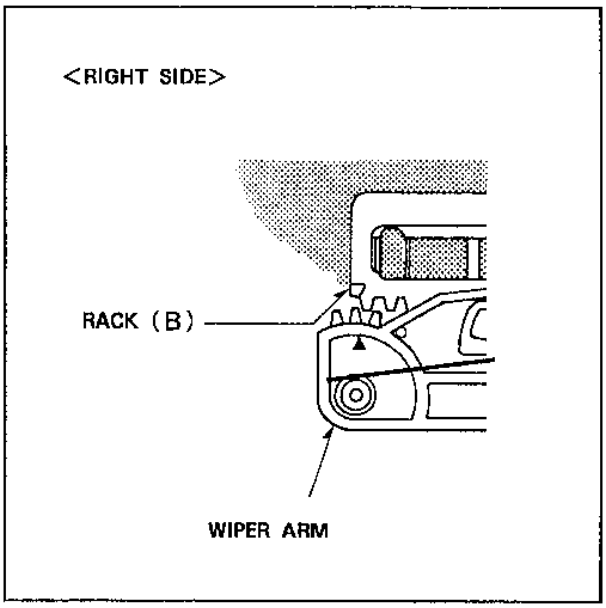


Fig.M48

4. Install the cassette compartment (without cassette holder) to the mechanical chassis so that mark on the Holder Connection Gear should line up with first tooth of the Rack Gear as shown in Fig.M49.

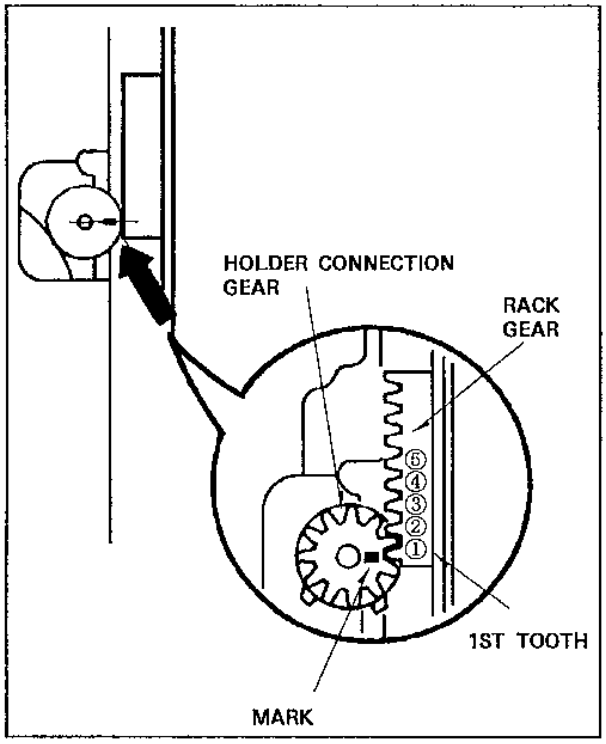


Fig.M49

5. Tighten 4 screws as shown in Fig.M50.
6. Manually move the loading mechanism toward the EJECT position by turn the Loading Motor and stop just before completion, so that the Wiper Arm straight up.
7. Install the Cassette Holder Unit in the Cassette Compartment Base as shown in Fig.M51.
8. Install the Top Plate on the Cassette Compartment Base.
9. Manually confirm that front loading and main loading run smoothly.

<NOTE>
For proper front loading, the guide pin on the opener lever should follow the upper track of the right side panel as shown in Fig.M52.

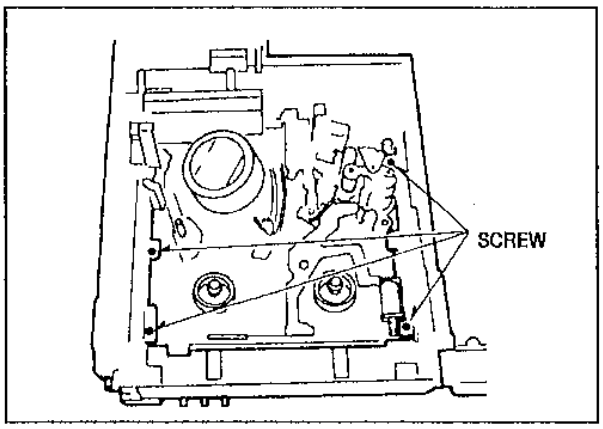


Fig.M50

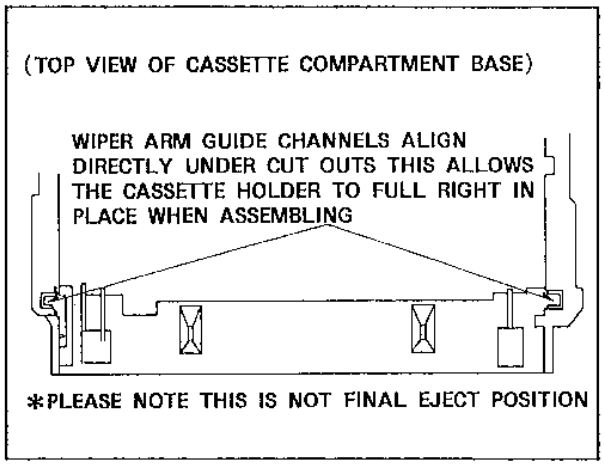

(TOP VIEW OF CASSETTE COMPARTMENT BASE)
WIPER ARM GUIDE CHANNELS ALIGN DIRECTLY UNDER CUT OUTS THIS ALLOWS THE CASSETTE HOLDER TO FULL RIGHT IN PLACE WHEN ASSEMBLING
*PLEASE NOTE THIS IS NOT FINAL EJECT POSITION

Fig.M51

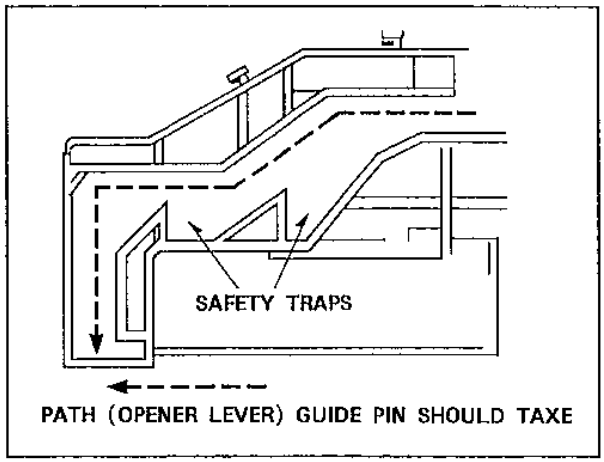


Fig.M52